ALSO IN OUR NEWS SECTION ■ GE is suggested as a model for the intelligence community's IT revamp. PAGE 4
■ On the Mark: CFOs get a tool to measure the efficiency of CIOs. Uh-oh. PAGE 6

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APRIL 19, 2004 ■ VOL. 38 ■ NO. 16 ■ $5/COPY

KNOWLEDGE CENTER DISASTER RECOVERY

Preparing for the Worst

Power outages, fires, floods and terrorism are near-constant threats for today's IT-dependent businesses. Plus, the coming hurricane season is expected to be worse than usual. Here's how to get ready. **Stories begin on Page 33.**

Online Exclusive:
Real disaster tales from the Shark Tank archives:
QuickLink 45762 | www.computerworld.com

WENDY WAHMAN

Best Buy to Outsource IT To Accenture

IT head count expected to drop from 820 to 40 as retailer stresses agility over customization

BY CAROL SLIWA

In an uncommon move in an industry that usually takes a selective approach to outsourcing, retailer Best Buy Co. last week confirmed its intention to outsource all of its IT operations to Accenture Ltd.

Richfield, Minn.-based Best Buy currently employs 820 people in its IT department but said it expects only 40 to remain with the company if it reaches a final agreement with Accenture.

ONLINE
QuickLink a2290

Best Buy spokeswoman Dawn Bryant said that those 40 will oversee IT strategy and manage the relationship with Accenture. About 650 IT employees are expected to receive comparable job offers from the management and technology consulting firm.

Best Buy last week notified the other 130 IT employees that their positions are being eliminated. Bryant said the employees will remain on the payroll for 60 days, after which they will receive severance packages.

Bryant said positions are being eliminated in areas of redundancy, and she stressed that job performance wasn't a factor in the decision-making process. "It's about needing to be really efficient as an organization and being able to react to changing business needs,"

Best Buy, page 14

Microsoft Draws User Ire With Its Latest Release of Patches

Frustration mounts as users struggle to install numerous fixes

BY JAIKUMAR VIJAYAN

Microsoft Corp.'s release last week of three critical patches to fix 20 flaws in various Windows products drew flak from users who expressed frustration at the company's continuing problems with security.

In one of its biggest monthly patch releases to date, Microsoft issued updates aimed at closing several major holes in products ranging from Windows NT 4.0 to the 64-bit edition of Windows Server 2003. Also affected were several versions of its Outlook Express e-mail program.

One of the patches fixed 14 separate vulnerabilities; another fixed four.

"We are extremely concerned by the high amount of vulnerabilities and patches from Microsoft. This goes against the credibility of what they have been saying," said Michael Kamens, global security director at Thermo Electron Corp.

The fact that even a new product such as Windows Server 2003 has problems "brings no great joy to our

Patches, page 51

INSIDE Linux vendors claim Forrester report on security was biased in favor of Microsoft. **PAGE 51**

Effort Afoot to Exempt 20k From H-1B Cap

Bill would allow hiring of more foreign grads with advanced degrees

BY PATRICK THIBODEAU
WASHINGTON

There's a new push in Congress to increase by 20,000 the number of foreign workers holding H-1B visas. Proposed legislation would accomplish that by exempting foreign graduates with advanced degrees from the visa cap.

ONLINE
See our H-1B special coverage page:
QuickLink s1460

The bill, introduced earlier this month by Rep. Lamar Smith (R-Texas), is supported by Compete America, a coalition of manufacturers, academic groups and IT vendors such as Microsoft Corp., Intel Corp., Oracle Corp., and

H-1B, page 14

NEWSPAPER

Great Moments at Work.

Microsoft

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Introducing the new Microsoft Office System.

Now users can do more for themselves so you can focus on the important things. More than just the core suite you're familiar with, the new Microsoft® Office System is an integrated system of easy-to-use, expanded programs, servers, services, and solutions that help end users be more self-sufficient. With Microsoft Office Professional Edition 2003, Microsoft Windows® SharePoint™ Services, and Microsoft Office SharePoint Portal Server 2003, end users will have the ability to create and manage their own team work spaces. So not only will they be able to collaborate and share information easily and more securely, but you'll be free to do what you really need to do. To find out how the Microsoft Office System can work for you, **go to microsoft.com/officeIT**

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SharePoint™ Portal Server 2003

Services

Live Meeting
Office Online

Solutions

Solution Accelerators

Enabling Technologies:
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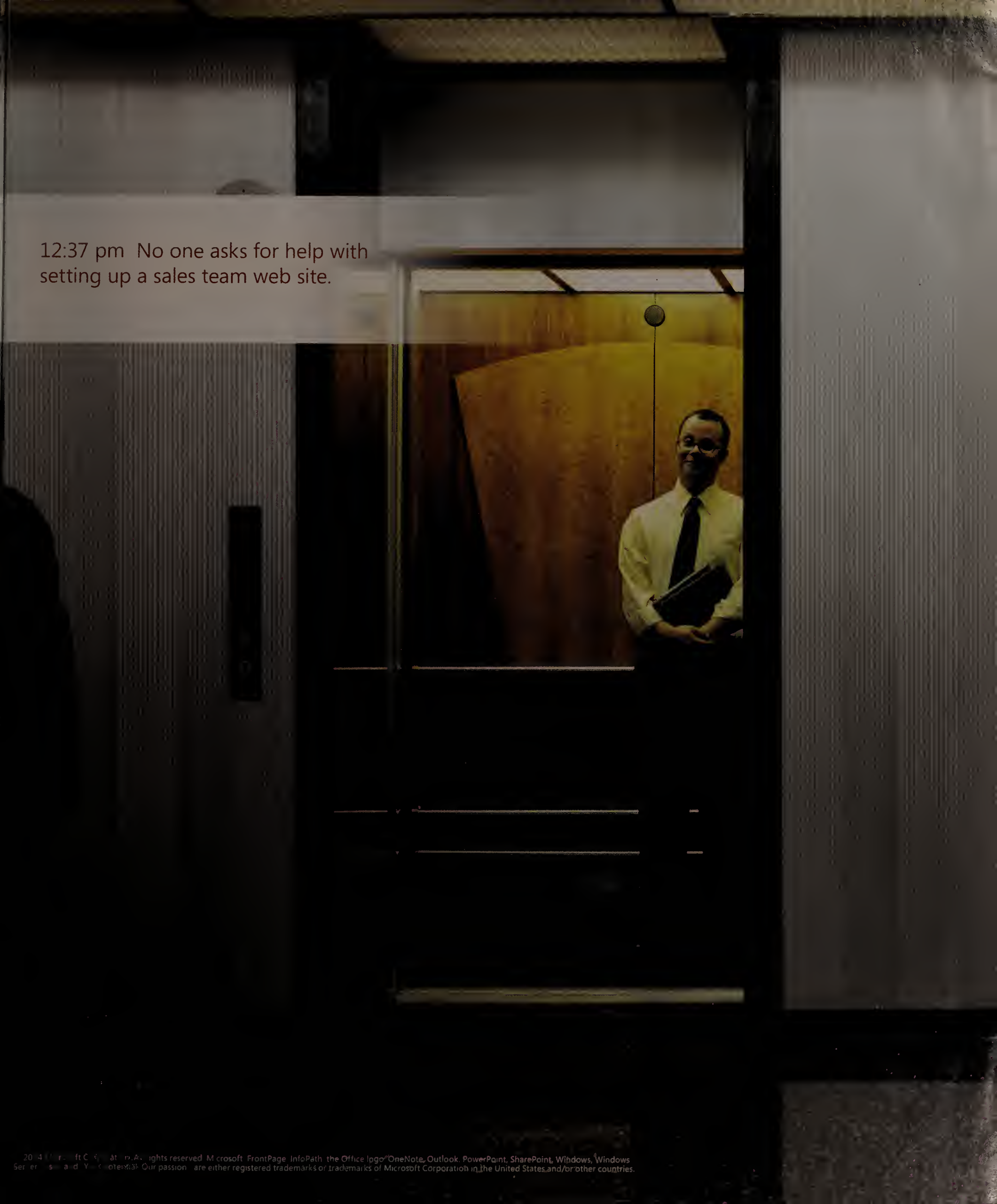
Microsoft® Office


12:37 pm No one asks for help with setting up a sales team web site.

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CONTENTS

04.19.04

IT Drives the UPS Machine
In the Management section: The UPS Worldport hub in Louisville, Ky., uses $100 million of homegrown software to manage automatic sorting of almost a million packages a day. The system also helps reduce manual labor and increases employee retention. **Page 27**

Seeing Voices
In the Technology section: Voice-over-IP monitoring tools are getting better at maintaining harmony across even large-scale converged networks. **Page 21**

NEWS

4 **The 9/11 commission** suggests General Electric as a structural model for the intelligence community.

5 **CEO Sanjay Kumar** comes under scrutiny for his possible role in Computer Associates' accounting scandal.

5 **Oracle's JDeveloper 10g** tool aims to make development easier for programmers who aren't familiar with Java.

8 **Microsoft considers** "marginal" changes to Longhorn.

10 **MySQL plans** to add clustering support to its open-source database.

10 **The Seattle Mariners** shut out spam with e-mail-blocking technologies.

12 **McDonald's adds Wi-Fi** to its menu, with provider Wayport supporting business applications as part of the deal.

12 **Q&A: David Yen** explains Sun's decision to stop developing two processors.

ONLINE

ONLINE DEPARTMENTS

Breaking News
QuickLink a1510

Newsletter Subscriptions
QuickLink a1430

Knowledge Centers
QuickLink a2570

Computerworld Store
QuickLink a2420

What's a QuickLink?
On some pages in this issue, you'll see a QuickLink code pointing to additional, related content on our Web site. Just enter that code into our QuickLink box, which you'll see at the top of each page on our site.

OPINIONS

6 **On the Mark: Mark Hall** says a tool that CIOs use to monitor operations could be used by CFOs to watch them.

18 **Maryfran Johnson** writes that preparing for postdisaster recovery operations isn't too hard, and it doesn't cost a lot. So why aren't you doing it?

18 **Pimm Fox** says companies that aren't in the IT business should pull the plug on their IT departments. That's what H&R Block did.

19 **Thornton A. May** has found that your direct reports consist of fully qualified leaders and various less-qualified types. You need to identify the ones to invest in.

26 **Robert L. Mitchell** says online reservations systems show the complexity of delivering end-to-end, real-time data access.

30 **Barbara Gomolski** advises IT to revamp its processes to improve efficiency and customer service.

52 **Frankly Speaking: Frank Hayes** says Ronald McDonald can teach you a few lessons about how to creatively apply Wi-Fi to your business.

DEPARTMENTS/RESOURCES

At Deadline Briefs 6
News Briefs 10
Letters 19
IT Careers 44
Company Index 50
How to Contact CW 50
Shark Tank 52

KNOWLEDGE CENTER DISASTER RECOVERY

Preparing for the Worst

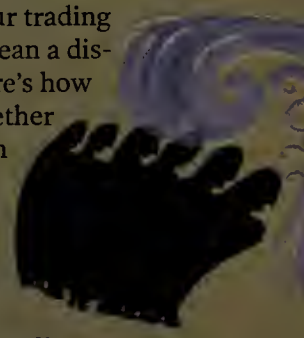
The risks are piling up. This special report provides peer-tested tips for keeping your business running during the most common disasters and avoiding classic mistakes when making disaster recovery plans. And don't forget to check up on your suppliers!

SPECIAL REPORT

PACKAGE BEGINS ON PAGE 33.

34 Rising From Disaster. Users such as Joe Torres, disaster recovery coordinator for Miami-Dade County (left), offer tips to keep systems running during a variety of disasters.

36 Classic Mistakes. Because disaster planning takes a back seat to other IT projects in almost all companies, mistakes are bound to happen. Here are five common slip-ups in disaster recovery.



38 Get in Sync With Suppliers. A disaster for your trading partners could mean a disaster for you. Here's how to determine whether your supply chain partners are prepared.

39 A Dose of Reality. Experts offer tips for conducting disaster recovery tests. For example, hold "real-world" tests of your organization's most critical systems at least once a year.

40 The Almanac: Y2k was a mixed bag for the disaster recovery field: It raised awareness, but successful Y2k remediation efforts led to credibility problems and complacency. Also: VXA data tapes can withstand coffee spills.

41 Opinion: Dear old Mom said to expect the worst. That's good advice for managing disaster recovery efforts with your outsourcers, says columnist Mark Hall. Plus, results from *Computerworld*'s survey of IT professionals on disaster recovery issues.

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Book Excerpt. Companies tend to overlook a key task when developing business continuity plans, says author Jon William Toigo.
QuickLink 45741

Business Continuity Checklist. Two Avanade consultants offer steps you can take to create — and maintain — successful disaster recovery plans.
QuickLink 45544

Wild Weather. An IT manager recalls how his company recovered after flooding took out storage, power and phone lines.
QuickLink 45884

Survivor's Guide. Dell's Praveen Asthana offers suggestions for recovering data in the event of a disaster
QuickLink 45852

9/11 Commission Eyes GE as Intelligence Community Model

Structural overhaul of agencies focuses on centralized control, IT-enabled workforce

BY DAN VERTON
WASHINGTON

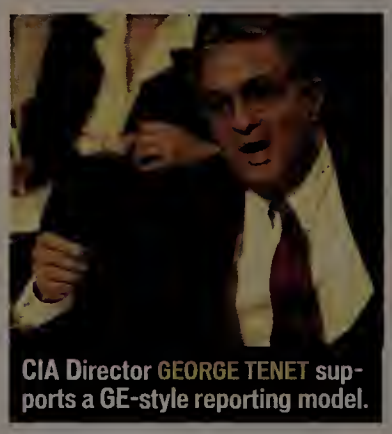
LAST WEEK, a member of the independent commission investigating the Sept. 11, 2001, terrorist attacks put CIA Director George Tenet on notice that massive structural change is on the way for the U.S. intelligence community and that when it's finished, the CIA hierarchy may look more like General Electric Co.'s than a typical spy agency's.

Former Navy Secretary John F. Lehman told Tenet during an April 14 hearing that the U.S. intelligence community faces "an IT problem" stemming from a "deep, embedded, functional [lack] throughout the community of common protocols for information."

One of the steps the commission may take to fix that problem, said Lehman, is to force the CIA and other agencies to adopt the GE corporate model, which is based on a small, centralized senior management team that's surrounded by IT-enabled functional departments. "[That] is the model that is beginning to take shape in our mind," he said.

Although the comparison between one of the world's largest multinational companies and the U.S. intelligence community — a hodgepodge of dozens of federal agencies that operate more or less independently — may seem strange to some, Tenet welcomed the idea.

"It's a good model," said Tenet, adding that having smaller staffs gives executives more power over execution. "[Having] real metrics and power to move people and data as you need to to achieve better execution is a smart way to think about this discipline for the future."



CIA Director GEORGE TENET supports a GE-style reporting model.

THE DAY IN PHOTOS
Dan Verton's photojournal of the testimony of Tenet and Mueller is available online:
QuickLink a4400
www.computerworld.com

Hank Zupnick, CIO of GE subsidiary GE Capital Real Estate in Stamford, Conn., said the success of the company's culture stems from the fact that technologists are employed as strategic business drivers.

"As a CIO at GE, I'm here to be a business manager, to help our business grow and profit, not only to manage technology," Zupnick said. He also noted that all IT projects are subject to Six Sigma quality standards and continual reviews by senior business managers to ensure that IT is still relevant to the changing needs of the business.

A Strategic Role for IT

Rob Enderle, principal analyst at The Enderle Group in San Jose, said studies of GE's IT management have shown that the IT group plays a strategic role in the company, with the CIO reporting directly to the CEO.

"They created effective synergies that reduced overall cost and allowed one group to benefit from the work of other groups," said Enderle. However, he added that while GE's strategic use of IT was the result of a "huge focus on quality and integration," the company's business model wasn't compared with those of companies in other industries. Therefore, the 9/11 commission may want to look at additional companies and industries that have undertaken major reorganizations to fix similar problems, he said.

For example, "they might want to look at pharmaceutical companies, which have a reputation for being better at intelligence gathering and competitive intelligence," Enderle said. Likewise, General Motors Corp.'s massive intelligence problem in the 1970s might offer a useful example, he said.

Tenet told the commission that U.S. intelligence needs new recruits who have what former GE CEO Jack Welch credited his successor, Jeffrey Immelt, with having: a cutting-edge technological background and a keen strategic intellect. It needs people with "revolutionary ideas about technology" and how it works, said Tenet.

"The people you're recruiting aren't 30-year veterans anymore," he said. "You're attracting a whole new labor force that doesn't remember the Cold War, and they expect a structure that's going to be more agile and mobile and more technologically proficient." QuickLink 46250

FBI, DHS Playing IT Catch-up

WASHINGTON
Despite the monumental efforts that have been made since the Sept. 11, 2001, terrorist attacks to improve data sharing throughout the U.S. intelligence community, major problems still exist at the FBI and the Department of Homeland Security (DHS), according to the commission investigating the attacks.

After two days of testimony that ended April 14, the National Commission on Terrorist Attacks Upon the United States issued two scathing reports that condemned the information-sharing capabilities of key agencies in the fight against terrorism.

"It is clear that gaps in intelligence sharing still exist," the commission stated in a staff report titled "Reforming Law Enforcement, Counterterrorism, and Intelligence Collection in the United States." The report outlines a multitude of shortcomings that still existed as recently as last fall.

For example, FBI agents complained of a lack of computers with access to Intelink, the intelligence community's centralized, top-secret intranet. And the agent in charge of the Washington field office, the second-largest FBI office in the nation, said a lack of basic connectivity prevented him from sending e-mails across town to the Department of Justice.

"We are kidding ourselves if we think that there is seamless integration among all of the agencies," the report quoted Michael Rolince, the FBI's acting assistant director for intelligence, as stating.

When asked by commission member Timothy Roemer if he's able to send a classified e-mail with an attachment to his counterparts at the FBI, Patrick Hughes, assistant secretary for information analysis at the DHS, said he can do so, but with difficulty.

The problem stems from "the technical interface between the Department of Homeland Security and the FBI," said Hughes. "But we have FBI liaison officers present in the DHS, and we would pass it to them and they would transmit it . . . or we would use secure fax."

In an unprecedented public appearance, James Pavitt, the official in charge of the CIA's clandestine service, said the agency is able to directly share electronic data "without any question" with the FBI and the Terrorist Threat Integration Center, the central clearinghouse for all terrorism intelligence analysis. However, when it comes to sharing with the DHS, "I do not have the same level of confidence at this time," he said.

TTIC Director John Brennan said he has direct electronic connectivity to the agencies he works with. But analysts at the TTIC are still forced to conduct multiple searches for information that's stored in disparate databases across agencies, he said.

FBI Director Robert Mueller called the commission's report "a snapshot in time" and said improvements have been made since then and continue to be made.

"Transitions take time," said Mueller. "If you look at the IBMs and the GEs . . . they will tell you there are a number of components to transforming an organization. We are still working on the information technology in our communications, but we're on the road to solving those [problems]."

– Dan Verton

PHOTOS BY DAN VERTON

"Transitions take time," said FBI Director ROBERT MUELLER.

CA Accounting Scandal Raises Questions About CEO's Fate

Indictments of former finance executives prompt suspicions of Kumar's complicity

BY STACY COWLEY

Following a wave of indictments this month that netted guilty pleas to securities fraud and other charges from several former finance executives at Computer Associates International Inc., speculation is turning to the fate of the company's CEO.

CA has already admitted to improper accounting practices in its 2000 fiscal year that were under investigation by the Securities and Exchange Commission and U.S. Department of Justice [QuickLink 44563]. The company has since revamped its accounting methods, replaced most of its board and pushed out a number of executives tainted by fraud. But one executive from that era, Sanjay Kumar, now serves as the company's CEO. And questions linger about the then-president and chief operating officer's involvement in CA's accounting manipulations.

Potential Targets

The DOJ complaint against Ira Zar, CA's chief financial officer until last October, charges that he regularly met with two other unnamed "high-level" executives who allegedly knew and approved of the financial sleight of hand. Zar at the time reported directly to Kumar, who in turn answered to then-Chairman and CEO Charles Wang, a company co-founder who has since retired.

The DOJ is continuing its investigation in conjunction with the SEC, and speculation in the IT and financial sectors persists that Wang and Kumar may be targets of future actions.

Some financial analysts are already calling for Kumar's resignation, arguing that as the company's operational head, he either knew or should have known what was going on. Mike Trigg, an analyst at Morningstar Inc. in Chicago, issued a report blasting CA for "a management team that we don't trust," and New York-based Credit Suisse First Boston LLC wrote of "increasing fear" that Kumar is one of the DOJ's implicated but unnamed executives. Credit Suisse called Kumar's forced departure "a scenario that is being widely reported by Wall Street."

CA on April 8 released a statement acknowledging that the company and its officers could face civil and criminal proceedings [QuickLink a4430], but it declined further comment.

Complicating the issue of Kumar's future is the general consensus among IT industry observers that he has done a good job as CA's leader. When Kumar ascended in August 2000, he inherited a company that investors didn't trust and that customers castigated for hardball sales tactics. In response, Kumar overhauled CA's accounting and corporate governance, reformed its sales and customer service organizations and made customer satisfaction a top priority.

Some financial analysts have called on SANJAY KUMAR to resign.

The changes have worked, according to Jeffrey St. Germain, a project manager for the Massachusetts Department of Education's Virtual Education Space project, which runs on CA's portal software. "At least on our side, things have gotten better," he said. "Perhaps because of what's been going on, they've been more attentive to us."

Javed Matin, CEO of Myriad Solutions Inc. in Silver Spring, Md., said his consultancy, which is based around CA products, hasn't lost any deals because of the accounting scandal. "I don't think it's affected us or our clients in any way, shape or form," he said. "It's been going on for so long, and Computer Associates isn't the only company that's had this sort of problem."

If Kumar is indicted, some disruption is possible. "That would get a lot of visibility. People would take notice," Matin said. "We'll have to wait and see. I'm hoping it wouldn't have any adverse effects on our business or CA's business."

Michael Dortch, an analyst at the Robert Frances Group Inc. in Westport, Conn., said CA will weather any shake-up. "I'm not worried about them, and none of our customers seem to be very worried, either," he said. "What most IT executives care about are the next deliverables. If something were to happen to impede Sanjay's ability to lead, they'd find the engine would keep going. CA is bigger than any one individual in the management team." **46246**

Cowley writes for the IDG News Service.

New Oracle Tool Aims to Ease Java Development

JDeveloper 10g adds visual capabilities

BY CAROL SLIWA

The developers who write order management applications for Associated Wholesalers Inc. decided last September to test a beta version of Oracle Corp.'s JDeveloper 10g.

By November, they were engrossed in heavy-duty development of service-oriented applications to replace the mainframe-based systems they had been using for over 20 years, according to Les Morton, product manager of the order management applications.

"Bear in mind, none of us had any Java programming experience," Morton said. "We also had no idea what J2EE is."

That's exactly the sort of reaction that Java tools vendors such as Oracle have been hoping to get from developers new to Java. They have been working to make their tools easier to use in hopes that non-Java programmers will be attracted to their development environments over Microsoft Corp.'s rival .Net approach.

Productivity and ease of use are typically associated with Microsoft's tools, while Java and especially J2EE development are often viewed as more complex.

But Oracle's JDeveloper 10g, released last week, is one of a collection of new tools that vendors hope will start to reverse that image. Rob Cheng, product marketing director of Oracle's application server and tools, cited the drag-and-drop capabilities in JDeveloper 10g's visual Struts page-flow modeler and a visual Web-page editor as important steps in the right direction.

Cheng also noted that JDeveloper 10g's support for the Unified Modeling Language is intended to help developers think through complex designs before they start producing code.

The new tool's Application Development Framework takes the models from the tool and "implements all the hard stuff underneath that the non-Java experts wouldn't want to code themselves," Cheng added. He said ADF has prebuilt runtime libraries that will reduce the amount of code that developers need to write.

ADF will run on any J2EE application server and has been certified to run on BEA Systems Inc.'s WebLogic and the open-source JBoss, according to Cheng.

"No other tools vendor with a productivity framework can claim that their framework will run on any J2EE application server," Cheng said. "They're all tied to their application servers."

> **"The real selling point was that it allowed us to maintain the architectural principles of our projects."**
>
> **LES MORTON**, PRODUCT MANAGER, ASSOCIATED WHOLESALERS INC.

Although Oracle aims to attract general developers with the tool, analysts said they expect it to hold the greatest appeal for users of Oracle's application server and database.

Indeed, one reason Associated Wholesalers decided to go with the tool was that it already used Oracle's database server and Internet development suite, Morton said.

But Morton also stressed the attractiveness of the data-binding capabilities in ADF and ease of development with JDeveloper. "The real selling point was that it allowed us to maintain the architectural principles of our projects," he said. "We wanted to have a service-oriented architecture for our system. The data-binding framework allowed that."

Mark Driver, an analyst at Gartner Inc., said the code-centric JDeveloper 10g eases development for medium- to large-scale projects, but Oracle still has no offering in the "J2EZ" class, such as BEA's WebLogic Workship and Sun Microsystems Inc.'s upcoming Java Studio Creator, to target the traditional Microsoft audience. **46255**

AT DEADLINE

Sun Overhauls Hardware Units

Sun Microsystems Inc. reported a $760 million loss for its third quarter and announced more management changes and a reorganization of its hardware units. Microprocessors and both high- and low-end Sparc servers are being combined in a new Throughput Systems unit under David Yen, an executive vice president at Sun. Systems based on processors from Intel Corp. and Advanced Micro Devices Inc. will be folded into Sun's Network Systems division.

John Fowler was named acting executive vice president of Network Systems and lead technology officer for Sun as a whole. Both he and Yen report to Jonathan Schwartz, who became president and chief operating officer earlier this month. Sun also said Mark Tolliver, its chief marketing and strategy officer, and Neil Knox, who had been in charge of volume systems, are leaving the company. (Read an interview with Yen about Sun's processor development plans, on page 12.)

HP Offers 4-CPU Opteron Server

Hewlett-Packard Co. today will formally announce its first servers based on AMD's Opteron processor, including a four-CPU model. HP said the ProLiant DL585 supports twice the memory capacity and is less expensive than its DL580 system, which is based on Intel's Xeon chip. But the DL585 lacks the memory protection features built into the DL580, HP added.

PeopleSoft Adds to Rapid Rollout Tools

PeopleSoft Inc. today plans to expand a rapid deployment offering for its EnterpriseOne midmarket ERP applications, adding support for Intel-based servers and its fixed-time, fixed-cost installation framework.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY GOSSIP BY MARK HALL

MATTHEW FAULKNER

CFO Can Automate CIO Watchdog Tool . . .

. . . in the first quarter of 2005, when Centrata Inc. in Redwood City, Calif., plans to ship Version 4 of its Service Catalog, which will add analytics specifically for chief financial officers to sniff around IT project metrics to ensure that CIOs are properly serving business units and the overall company. That might seem downright harsh to you CIOs who are the primary users of today's 3.0 version of the software. After all, you've shelled out somewhere between $2 million and $3.5 million for the Centrata Service Catalog to standardize and automate the delivery of IT services to business units and manage projects from cradle to grave. If a company division needs a new mail server, a business unit manager opens Service Catalog, decides what he wants, then out spits a detailed "statement of work," which Centrata CEO Venkat Raju claims is more detailed than your everyday request for proposal. Not only does the statement include the basic RFP specifics on hardware, software and labor costs, but it also covers commitments on deployment schedules, long-term support and even end-of-life projections and costs. The whole shebang. Next year, your CFO will get a raft of metrics based on Service Catalog to see if you're as efficient as you claim. Of course, you could always skip the upgrade.

Beta work leads to alpha advantage . . .

KEITH FLETCHER saved around $100k with the "early, early beta" he received of Microsoft Office System.

. . . for Lowe Enterprises Inc., a Los Angeles-based national real estate developer. Keith Fletcher, senior vice president for information systems, says he got "an early, early beta" of Microsoft Office System and put it into production. Daring? Crazy? Would you do that with a Microsoft product? Maybe you should. Fletcher says that by the time Microsoft finally released the product last year, he was already saving around $100,000 just by reducing the number of Exchange servers needed. More important, he was able to roll out a custom application quickly to his real estate acquisition team. Each land deal, he says, runs in the range of $20 million to $30 million. With the customization his staff did with Office System, Fletcher says the company can probably handle two or three more deals a year because of better information management and access. By this summer, he says, another customized application will be ready for all of Lowe's real estate managers. There are downsides to depending on a product still in beta, though. "We had no final documentation until after Microsoft shipped" the final release, he says. A more subtle problem, Fletcher points out, is that end users haven't heard about the new product in the media or by word of mouth, so it lacks validation in their minds. "You have to sell it harder internally," he advises. The upside? "We're way ahead of the competition," Fletcher claims.

Once is more than enough . . .

. . . when you need to sign onto your company network and all your applications, if you use the OneSign appliance from Imprivata Inc. in Lexington, Mass. The rack-mounted device uses the proprietary Application Profile Generator (APG), which learns each and every packaged, custom or Web app's access process and combines that information with your user-rights profiles in Active Directory or other LDAP directories to identify and authenticate users. You simply load a lightweight client on users' PCs and let them log into their applications once, and the APG takes over for every subsequent log-on process. Version 2 of the software adds shared workstation features for multiple users and will be available next week. Pricing starts at $20,000.

Get out of your car and onto your keyboard . . .

. . . and maybe conduct a little official business online by joining Raindance Communications Inc.'s Earth Day effort this week to cut back on the 250 million hours per month that white-collar workers waste driving to and from local meetings. And you can join for free on April 22, Earth Day, by being among the first 1,000 companies to sign up for the Louisville, Colo.-based vendor's Raindance Meeting Edition for Web, audio and multipoint videoconferencing. Chief Marketing Officer Brian Burch says services like Raindance's are widely used to cut down on interstate travel and hotel costs. However, what he calls "the hidden commute" of local white-collar business trips is not only expensive and time-wasting, but it's bad for the air, too. According to the Environmental Protection Agency, its Best Workplaces for Commuters program annually saves 35 million gallons of gas and cuts 2,000 tons of nitrous oxide and 500,000 tons of carbon dioxide from the skies. So, get online and off the road. **46230**

35 million gallons of gas

The OneSign appliance from Imprivata Inc.

ADVERTISEMENT

"Our goal in information systems is to leave behind an organization that's more efficient than when we arrived." — **Sue Simonett**

Sue Simonett
Senior Director of IS

General Mills, Inc.
Minneapolis, Minnesota

Sue Simonett has always worked in Information Systems (IS), a career she loves both for the strategic view it has afforded as well as the ability to positively impact the lives of end users.

Recently charged with reinventing the way that a sales force of 450 retail reps managed their numerous product lines, she's implemented an ingenious handheld system that brings technology to the front lines of the company.

Using a stylus and a handheld mobile device, sales reps now electronically record product information while in the store. Gone are the days of messy paper logs and evenings spent keying the day's data into a laptop for downloading to corporate. At the end of each day, the rep simply places the device in a cradle and the data is sent directly from the handheld. The results: sales reps that can handle more products with fewer errors, and get the right products to the right shelves faster.

Great Moment at Work: "My first warehouse management system, start-up day. We designed a top notch system that totally reengineered the business and it was really gratifying when everything fell right into place."

Microsoft Office System salutes those who have done great work in the IT field.

Great Moments at Work.

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Microsoft Says It's Considering 'Marginal' Changes to Longhorn

Major new features to remain intact; operating system beta due next year

BY CAROL SLIWA

MICROSOFT CORP. confirmed last week that it's evaluating features and functional scenarios that might be scaled back in the next major Windows release, code-named Longhorn.

But Greg Sullivan, a lead product manager in Microsoft's Windows client group, said the company is looking at "fairly marginal features" and has no plans to make significant changes to the Longhorn vision that it laid out last October at its Professional Developers Conference (PDC).

"The normal part of any development process is looking at the project end to end and prioritizing features and scenarios and capabilities," Sullivan said. "That's the process we're in with Longhorn now."

Microsoft distributed a developer preview edition of Longhorn at the PDC, and the company plans to refresh the developer preview for those attending next month's Windows Hardware Engineering Conference in Seattle, according to Sullivan. He said Microsoft will also provide updated guidance at WinHEC, although the Longhorn review process will continue after the event, since the first beta isn't due for months.

At the PDC, Microsoft said the first beta of Longhorn was expected in the second half of this year. The date for the beta release is now pegged for the first half of next year, Sullivan confirmed. "The final release really will be determined by the customer feedback we get and when the product meets the quality standards our customers require," he added.

During last month's Gartner Symposium in San Diego, Bill Gates, Microsoft's chairman and chief software architect, said Longhorn is "not a date-driven release." But he also acknowledged that a 2006 release date is "probably valid speculation." The company earlier last year had said the product would ship in 2005.

LONGHORN FEATURES

AVALON
New presentation system

INDIGO
Communications infrastructure and programming model for building advanced service-oriented applications

WinFS
Storage subsystem; combines file data, relational data and XML data

A Microsoft spokesman confirmed last week that the "internal target date" for the Longhorn client operating system is the first half of 2006, but he quickly added that the ship date isn't nailed down.

Longhorn has three major components. Avalon is the code name for a new presentation system featuring a unified hardware-accelerated graphics programming model for video, animation and 2-D and 3-D graphics. Indigo is the communications infrastructure and programming model for building advanced service-oriented applications. WinFS is the new storage subsystem.

Sullivan said that under the current system, files are stored in folders that are subdirectories in the hierarchical file system. With WinFS, objects and the relationships between them will be stored, and each object in the store will have XML-based metadata associated with it so users can search, find and act on the information in a more flexible and powerful way, he said.

Sullivan said it's possible that elements of the three major Longhorn subsystems might be scaled back, but he characterized potential changes as "little things." He said the product scoping process involves "low-priority marginal features that may not make the cut."

BusinessWeek Online recently claimed that Microsoft plans to cut some of the most far-reaching pieces of Longhorn and reported that the current plan calls for the new file system to work on PCs but not extend to files shared over a corporate network. *BusinessWeek* said it based the information on two Microsoft e-mail messages it obtained.

"There's a degree of specificity there that I didn't arrive at reading the same internal communication," Sullivan said. He added that it's too soon to say what the enabled scenarios will or will not be. "WinFS was never designed as a way to index the Internet," he said. "We're looking at various ways that corporate data across corporate intranets can be exposed to enable users to interact with that data." **46244**

Correction

In the chart on page 28 of last week's issue, some figures for maximum memory supported were incorrect. For the AMD Opteron and the Athlon 64 FX, and for the Intel Itanium, the correct figure is 16GB per CPU (using current 4GB DIMM technology), with a theoretical limit of 1,024GB per CPU. In addition, Sun UltraSparc CPUs can indeed run 32-bit applications.

Hackers Breach Research Systems, But Data Kept Safe

BY PAUL ROBERTS AND TODD R. WEISS

In recent weeks, malicious hackers have infiltrated systems at various U.S. universities that operate scientific research or high-performance computing centers. But several schools said none of their data was compromised.

Stanford University, the University of California, San Diego, and the University of Illinois at Urbana-Champaign confirmed last week that systems on their campuses had been broken into. The attacks forced the schools to change user passwords and take some computers off-line to patch security holes that were used to gain access to the systems.

Sangtae Kim, director of the Division of Shared CyberInfrastructure at the National Science Foundation in Washington, said the federal agency believes the attacks in the U.S. were part of a much larger action that affected high-performance systems worldwide.

Some of the U.S. facilities that were affected are part of an NSF-funded network called TeraGrid, which links high-end systems at different sites. The intruders were able to access TeraGrid hardware in at least one location, according to an NSF spokesman.

The San Diego Supercomputer Center, a TeraGrid member at the University of California campus in that city, said in a statement posted on its Web site April 9 that an intruder had gained access to "a number" of its systems over a four-day period.

But the intruder was quickly detected and monitored, the center added. It noted that it uses a "defense in depth" approach that hides critical data under multiple security layers. As a result, the intrusions were just an "inconvenience," a spokeswoman said.

Stanford's IT Systems and Services group also posted a security alert, warning end users at the school about intrusions into multiuser systems running Solaris and Linux.

The university's IT staff became aware of the intrusions after users noticed discrepancies in the times of their last reported log-ins. The alert said other systems began performing poorly or erratically after the intruders installed so-called rootkits, which are programs that allow hackers to disguise their presence and gather information such as user names and passwords.

Tips for protecting systems against network intrusions

- **Install** all security-related operating system patches.
- **Make sure** end users choose passwords that are hard to crack.
- **Use** different passwords on all root-level accounts.
- **Use** Secure Shell software with RSA keys or Kerberos technology to authenticate users.
- **Limit** remote access to unpatched multiuser systems via firewalls or other approaches.

SOURCE: STANFORD UNIVERSITY'S IT SYSTEMS AND SERVICES GROUP

The attackers gained access to systems by sniffing passwords from unsecure network traffic, such as Telnet remote communications sessions, or by reading password files on infiltrated systems, according to the alert. Then they looked for other systems that lacked up-to-date security patches.

A Stanford spokesman said the attackers infiltrated about 30 computers but caused no damage or loss of data. "They got in, they were annoying, but [the systems] were not affected," he said. **46256**

Roberts is a reporter at the IDG News Service.

Call for Nominations

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Computerworld's Innovative Technology awards are "customer choice," which means Computerworld is asking those companies that use technology (but don't produce or sell it) to nominate vendors. The awards are devoted to identifying truly breakthrough technology – from vendors with long histories or those new to the industry – and showcasing how leading organizations are using this technology to achieve business payback.

Evaluation & Results

From May 17 to June 14, 2004, Computerworld will survey those vendor nominees about their technology applications. A panel of outside experts and Computerworld editors will then review the surveys and choose the winners. Survey results and stories that offer practical advice from IT leaders using these technologies will be published in the September 13, 2004 issue of Computerworld, as well as online at Computerworld.com.

Nominate online at www.computerworld.com/research/innovativetech from now through May 10, 2004. Questions? Contact innovativetech@computerworld.com

BRIEFS

Oracle Review Put On Hold in Europe

The European Commission said its antitrust review of Oracle Corp.'s hostile bid to buy PeopleSoft Inc. has been put on hold while officials seek more information from Oracle. The commission dropped a May 11 deadline for deciding whether it will seek to block a takeover of PeopleSoft; it was the second time it has postponed the ruling this year. Oracle said it will respond to the request for more information "as quickly as possible."

IBM Says Profits, Sales Rose in Q1

IBM reported a $1.6 billion profit on revenue of $22.2 billion for the first quarter, with its IT services unit accounting for half of total sales. Net income was up 16% year over year, and revenue rose 11%. John Joyce, IBM's chief financial officer, said during a conference call that mainframe sales rebounded after the company reinstated more aggressive pricing on those systems.

Microsoft Settles InterTrust Lawsuit

Ten days after resolving its long-running legal fight with Sun Microsystems Inc. [QuickLink 45957], Microsoft Corp. said it agreed to settle a patent infringement lawsuit filed three years ago by InterTrust Technologies Corp. As part of the deal, Microsoft will pay $440 million to license Santa Clara, Calif.-based InterTrust's portfolio of patents on digital rights management technology.

Short Takes

IBM said it plans to buy Schlumberger Ltd.'s London-based business continuity services unit for an undisclosed price. . . . EMC CORP. reported a first-quarter profit of $139.8 million, up from $35.2 million a year earlier. Total revenue was $1.87 billion. The storage vendor also raised its second-quarter forecast.

MySQL Plans Clustering Tool

Add-on will let users distribute vendor's open-source DB across multiple servers

BY MARC L. SONGINI

LOOKING to boost the reliability and availability of its open-source database, MySQL AB last week said it plans to add clustering support to the software later this year.

At its user conference in Orlando last week, MySQL previewed the MySQL Cluster feature, promoting it as a low-cost way to boost database uptime while ensuring that users can fail over to backup servers if a system crashes. The Uppsala, Sweden-based company said MySQL Cluster will support "five 9s" database availability through the use of a parallel server architecture.

Zack Urlocker, MySQL's vice president of marketing, emphasized that the open-source vendor isn't positioning itself to compete directly with enterprise-class databases from vendors such as Oracle Corp. and IBM.

"Those are very mature products that have all the features you can ever imagine," he said. "Think of those as the Ferraris, while we're providing the Honda database for core functions with extreme reliability at a low cost."

MySQL Cluster is due in the third quarter as an add-on to the company's namesake database. The clustering tool will let users distribute MySQL databases over multiple machines and manage them as if they were on a single system. Any changes to one server in the cluster will be automatically synchronized to the other machines through data replication, MySQL said.

The clustering feature would probably be most useful for companies running heavy-duty Web applications, said Carl Rubin, principal at Evidata Solutions, a Newton, Mass.-based database consultancy that uses MySQL to store customer information.

For Evidata itself, Rubin is more interested in other enhancements that are coming in Version 5.0 of MySQL, which was announced in January and is scheduled to ship in the second half of the year. He cited promised enhancements such as support for stored procedures and the ability to automatically join database tables.

At least initially, most MySQL users probably won't need advanced capabilities like clustering, said Charles Garry, an analyst at Meta Group Inc. But the clustering tool and other enhancements will remove "technical roadblocks" for companies that want to invest in an open-source database, Garry added.

MySQL Cluster will become available first with the existing MySQL 4.0 database. Pricing for the clustering tool wasn't disclosed, but MySQL said commercial licenses will cost less than $5,000 per CPU.

At the conference, MySQL also previewed MySQL 5.0 and a new graphical user interface, MySQL Administrator, that will replace its existing command-line interface [QuickLink 44191]. **46252**

TECHNOLOGY DETAILS

MySQL Cluster

THROUGHPUT: 100,000 replicated transactions per second on a four-node cluster of low-end servers, each with two CPUs

CLUSTER SIZE: Up to eight nodes via Gigabit Ethernet; larger configurations require a dedicated cluster interconnect

SUPPORTED OPERATING SYSTEMS: Windows 2000/XP, Red Hat Linux, SUSE Linux, AIX, HP-UX, Solaris, Mac OS X

PRICING: Free for use in open-source projects; under $5,000 per CPU for commercial users

Seattle Mariners Shut Out Spam

BY JAIKUMAR VIJAYAN

With a 2-7 record at this writing, the Seattle Mariners have a lot of problems to deal with these days.

But spam isn't one of them. Not now, anyway.

Until about three months ago, more than 20% of the roughly 60,000 e-mails the Mariners received weekly were either junk mail or viruses. For some e-mail accounts, the percentage was as high as 95%.

"Employees were being asked to manually delete each bad e-mail, which cost us both time and money," said David Curry, director of IT for the baseball team. "In addition, we were relying solely on the integrity of the users' local antivirus client to protect the network from [e-mail-based] viruses."

The situation threatened the team's ability to respond to fans electronically. So in January, the Mariners deployed spam-blocking and antivirus software from Computer Associates International Inc.

CA's eTrust Secure Content Manager software sifts through HTTP, e-mail and file transfer protocol traffic looking for and blocking inappropriate e-mail and Web content. The software allows Curry to define policies for what type of content is acceptable.

The software was installed during the height of the Mydoom virus outbreak in late January and blocked 20,000 infected e-mails during that first weekend, Curry said. "We've had zero infections since then," he claimed, and spam has dropped by 95%.

Spam-blacking technologies are becoming increasingly effective, said Jim Hurley, an analyst at Boston-based Aberdeen Group Inc. "It's becoming more of a manageable issue" through the use of blocking technologies, he said.

Boscov's Department Store LLC in Reading, Pa., uses products from Cisco Systems Inc. and Symantec Corp. to block nearly 98% of the e-mail traffic it receives. Of 36,000 messages reviewed recently, fewer than 800 were accepted as legitimate and delivered, said Joe Poole, the retailer's manager for technical support. The technology has done an "excellent job," he added. **46258**

MORE SPAM COVERAGE

For related stories, visit our spam special coverage page:

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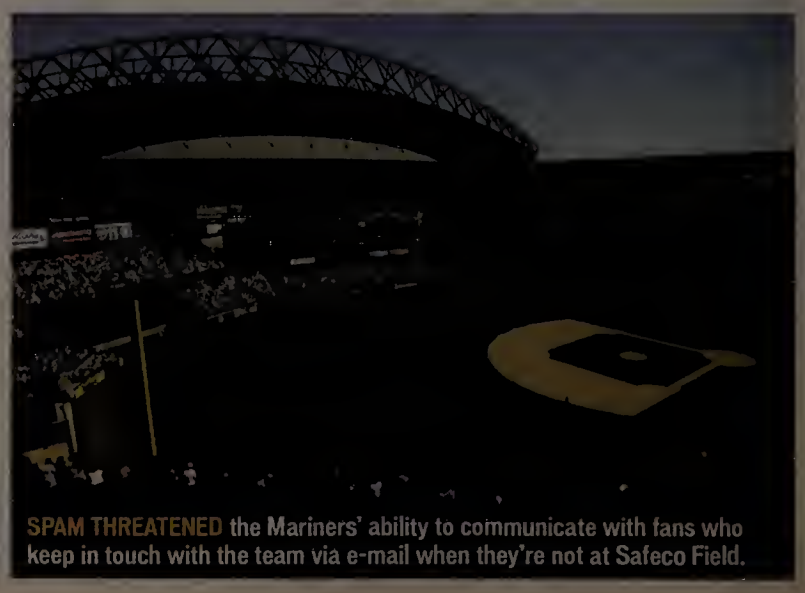

SPAM THREATENED the Mariners' ability to communicate with fans who keep in touch with the team via e-mail when they're not at Safeco Field.

2:01AM CHECK INTO HOTEL 2:11AM CHECK INTO INTERNET 2:26AM WORM ENTERS ROOM 536 2:28AM WORM EVACUATED BY NETWORK 2:32AM ORDER GRILLED CHEESE AND FRIES 2:35AM DOZE OFF

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McDonald's to Supersize Use of Wi-Fi Connections

Will offer customers wireless services, tap Wayport net for cashless payments

BY BOB BREWIN

McDONALD'S CORP. last week announced plans to install public-access Wi-Fi connections in 6,000 restaurants by mid-2005. But the fast food chain said its Wi-Fi services deal with Wayport Inc. goes far beyond providing wireless Internet access to customers.

McDonald's will also use the Wi-Fi network to deliver a wide range of digital content, including MP3 music files, and to support business applications such as its cashless payment system, said Jim Sappington, the company's vice president of U.S. IT.

Austin-based Wayport plans to install high-speed DSL connections in 3,000 McDonald's restaurants this year and another 3,000 by next June. Wayport CEO Dan Vucina said the cashless payment system, which supports credit card transactions at cash registers and drive-up windows, will be separated from the public-access network and operate on a virtual LAN in each store.

Cashless payments require a minimal amount of bandwidth, Vucina said. But Wayport will use internally developed software to ensure that credit card transactions get priority access to DSL circuits and that no single application hogs the network connections.

Bandwidth to Go

The so-called bandwidth-shaping software consists of about 700,000 lines of Linux code and runs on a Wayport-designed router/gateway that will be installed at each Wi-Fi hot spot, said Jim Keeler, Wayport's vice president of engineering. The hardware device will manage the wireless LANs as well as the Wi-Fi traffic to and from the DSL network connection, Keeler said.

SOURCE: MCDONALD'S CORP.

MCDONALD'S will use Wi-Fi to provide wireless Internet access and deliver digital content to customers, as well as enable credit card purchases.

McDonald's also plans to use the network to distribute employee training videos to restaurants, Wayport said.

The digital content McDonald's will deliver via the Wi-Fi setup includes MP3 files and digitized versions of newspapers and magazines. Wayport is letting users download publications such as *USA Today* and *BusinessWeek* in PDF files during tests of the Wi-Fi service at McDonald's in various metropolitan areas.

To reduce network bandwidth demands, Wayport plans to cache music files on the in-store router/gateways, which are equipped with 40GB hard drives. The Wi-Fi network could also be used to distribute movie trailers to customers as a tie-in to the movie-based meal promotions McDonald's runs, Vucina said.

Vince Howell, the owner of a McDonald's franchise in Las Vegas, N.M., said Wi-Fi could drive more traffic to his restaurant. Howell gets about 40% of his business from Interstate 25 travelers, and he thinks wireless capabilities would entice people with laptops that support Wi-Fi links to choose his restaurant instead of nearby fast food rivals.

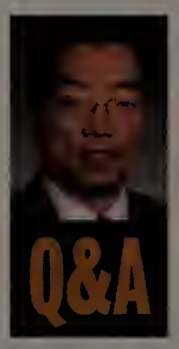
Wayport will offer two-hour Wi-Fi sessions at a cost of $2.95 per hour, in addition to other pricing options, such as a $29.95-per-month unlimited service plan for its nationwide network, which is currently available in 700 hotels and six major airports. Pricing for the MP3 content hasn't been set.

Amy Cravens, an analyst at In-Stat MDR in Scottsdale, Ariz., said a fee-based Wi-Fi services like the one at McDonald's need to differentiate themselves from free services "either by the quality of the connection or applications." 46251

Downsized Plan Yields Better CPU Road Map, Sun Exec Says

BY ROBERT McMILLAN
IDG NEWS SERVICE

As part of a downsizing announced earlier this month, Sun Microsystems Inc. is stopping development on its UltraSparc V processor and a device called Gemini for low-end servers [QuickLink 46146]. **David Yen,** *Sun's executive vice president of processors, enterprise systems and low-end Sparc servers, last week spoke with the IDG News Service about the decision to put all of the company's processor resources into multicore chips that can process multiple software threads simultaneously, an approach that Sun calls "throughput computing."*



How did you arrive at the decision to terminate Gemini and UltraSparc V? Well, the quick comment is, people should have no doubt about our belief and our vision in the throughput computing area. We believe in it so much that we wanted to focus all our resources on trying to expedite its development.

We did spend quite some time working on [UltraSparc V] and Gemini. There was really nothing wrong with those processors. We actually taped out both of them, and Gemini even reached the point where the chip was fully working. But in the Gemini space, we have UltraSparc IIIi and UltraSparc IIIi+ that are doing a very capable job. In the [UltraSparc] space, with the current UltraSparc IV, followed by the UltraSparc IV+, and then with the upcoming Rock and Niagara [multicore devices], we actually believe that this is probably a better road map.

Does the decision to cancel Gemini and UltraSparc V move up the ship dates for Rock and Niagara? It definitely helps, because we are moving a significant number of people who up to now had been working on UltraSparc V to work on the Rock and Niagara family.

When do you now expect those two processors to be ready? We have said Niagara 1 — that's our first Niagara chip — will happen probably at the very beginning of 2006, and the subsequent members of the Niagara family and the Rock chip will follow that.

But you said that last year. How has the road map changed as a result of the decision on UltraSparc V and Gemini? It certainly will secure the schedule, if not help to move it up earlier.

What does this mean for the future of UltraSparc? Is that product line as we know it dead, or will there be future UltraSparc processors? All of these throughput computing processors are Sparc-compatible. Whether we will continue using the UltraSparc name or not, that's a separate decision. But these are every bit Sparc processors. When one of them comes out, we may label that one as UltraSparc V to continue the sequencing, if that's still the way we want to name them.

You now have a relationship with Advanced Micro Devices for its Opteron chip. Would you consider using another type of core architecture in place of Sparc as you design new multicore processors? We will be working closely with AMD on Opteron-based Sun systems. However, please understand that we have a more than $127 billion installed base [on Sparc technology]. It is Sun's obligation to maintain binary compatibility.

This is one contract Sun considers very seriously. But you're right, the whole [throughput computing] innovation does not necessarily tie to Sparc.

So do you eventually expect to base throughput computing processors or systems on AMD's technology? It could happen, but in this particular case, it involves [working with] AMD. Therefore, until we are ready and we both agree, I cannot comment on that. 46213

MORE THIS ISSUE

Frankly Speaking: Frank Hayes says other companies could learn from the Wi-Fi installations at McDonald's. **Page 52**

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NEW PRODUCT

Polycom Adds Desktop Videoconferencing System

VSX 3000
Polycom Inc.

■ **PRODUCT SUMMARY:** Pleasanton, Calif.-based Polycom plans to announce the VSX 3000 today. The device is a high-end desktop videoconferencing system that combines a camera, microphone, speakers, required software and other components with a 17-in. display that can double as a PC monitor. Polycom said the system supports H.264 video compression, which produces much sharper images than products based on the older H.263 standard while utilizing half the bandwidth.

■ **USER EXPERIENCE:** Beta tester Dave Christensen, senior videoconferencing specialist at the headquarters of the Church of Jesus Christ of Latter-day Saints in Salt Lake City, described the VSX 3000's video and sound quality as "exceptional" and comparable to that of a room-size videoconferencing system. But at a price of nearly $5,000, the VSX 3000 also costs about as much as a room-size unit, Christensen said. The church hasn't decided whether it will buy any, he added.

■ **ANALYST ASSESSMENT:** The VSX 3000 fills a hole in Polycom's product line, said Andrew Davis, an analyst at Wainhouse Research LLC in Brookline, Mass. Polycom made earlier attempts to crack the market for executive-class desktop systems, but none were successful, he said. "This is for the status-conscious end of the market," Davis added, predicting that the ability to use a single monitor for both PC and videoconferencing purposes will help sales of the VSX 3000.

■ **OTHER VENDORS IN THE MARKET:** Tandberg ASA and Sony Corp.; Cisco Systems Inc. plans to ship a desktop videoconferencing system by midyear.

■ **PRICE:** The VSX 3000 starts at $4,999.

■ **AVAILABILITY:** Now. In the fourth quarter, Polycom plans to add an optional feature that will support data sharing during videoconferencing calls.

– Matt Hamblen

Continued from page 1

Best Buy

she said.

The agreement isn't yet a done deal, but it's nearing completion, said Bryant.

Based on information that has been publicly disclosed, the Best Buy deal appears to differ from some other retail outsourcing contracts, including the 10-year agreement that Sears, Roebuck and Co. is negotiating with Computer Sciences Corp.

In the second quarter, Sears hopes to finalize a deal, estimated to be worth $2 billion, that calls for CSC to manage much of its IT infrastructure. About 260 of the retailer's 1,160 IT workers are expected to be affected, but Sears has said it expects CSC to hire nearly all of those staffers.

Testing the Waters

John McCarthy, an analyst at Forrester Research Inc. in Cambridge, Mass., said most large retailers are doing some experimenting with outsourcing and offshoring as they try to beef up technology initiatives on low budgets. But companies typically outsource only a selected or commoditized piece of IT, such as the infrastructure or maintenance. "What Best Buy is doing is unique, and it's unique in most industries," he said. "Most companies don't necessarily want to get rid of all of IT."

Accenture, however, noted that the potential Best Buy arrangement isn't unprecedented. In late 2000, London-based grocery chain J Sainsbury PLC signed a seven-year deal to outsource its entire IT operation to Accenture and claimed it expects to save about $50 million per year. Sainsbury transferred about 800 employees to Accenture and retained a small in-house staff to oversee the company's IT strategy and manage the Accenture contract.

"Sainsbury and Best Buy are very much focused on contracting for bottom-line business results, and they believe they can achieve that by a more holistic outsourcing relationship, rather than outsourcing bits and pieces," said Angela Selden, managing partner of Accenture's North American consumer and industrial practice.

Selden said a retailer can hold a third-party provider accountable with a combination of a service-level agreements and business outcomes that are written into the contract. The outsourcer, in turn, makes sure resources are focused on whatever delivers the most business benefit to the retailer, she explained. "Service-level agreements rarely exist between internal IT organizations and their business counterparts," Selden said.

She said many retailers have capable IT leadership teams, but the pace at which a third party with IT expertise can make changes could make outsourcing attractive to retailers that are saddled with older proprietary or heavily customized systems to manage their businesses. "Retailers are very disadvantaged today because of this archaic infrastructure," Selden said.

Accenture advocates taking "packaged vanilla solutions and weaving them together in as simple a fashion as possible" and changing business processes, rather than heavily customizing software, as the most cost-effective approach for retailers, Selden said.

Selden said she recognizes that the approach would represent a dramatic change for the legions of retailers that claim they had to heavily customize systems because of the unique needs of their businesses. But she said they must change the way they do business in order to be nimble enough to "absorb innovation quickly."

In September, Plano, Texas-based Electronic Data Systems Corp. announced a multiyear contract with Best Buy to provide help desk and problem management services to its stores and corporate users.

Spokeswomen for both Best Buy and EDS said the Best Buy-EDS contract won't be affected by the Accenture deal. **46253**

Continued from page 1

H-1B

Sun Microsystems Inc.

This year's H-1B cap of 65,000 was reached in mid-February, less than five months after the Oct. 1 start of the federal fiscal year. Smith's bill, the American Workforce Improvement and Jobs Protection Act, wouldn't raise the cap, but it would exempt from that limit up to 20,000 graduates with a master's degree or higher from a U.S. university.

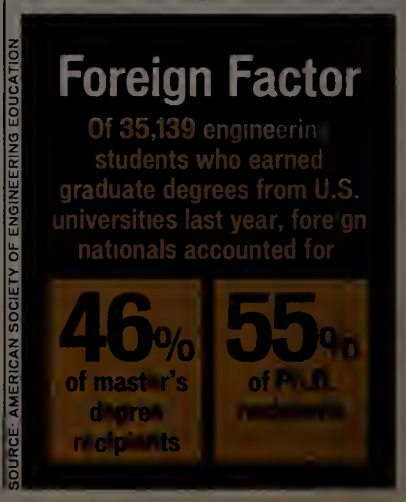
Students hired by universities and research institutions under the H-1B program are already exempt from the cap.

Most of the H-1Bs that U.S. companies are hiring "are coming out of our own schools," said Thom Stohler, a vice president at the American Electronics Association, a Washington-based IT trade group that has called for a higher H-1B cap. Businesses "are not going to Bangalore to find people; they are finding them here," he said.

"It's the position of the AEA that individuals who possess a master's or Ph.D. degree are not stealing American jobs; they are creating American jobs," said Stohler. Holders of advanced degrees tend to be employed in research and development work, he said.

Under U.S. immigration law, companies were allowed to begin applying this month for H-1B visas that will be issued at the start of the 2005 fiscal year. Vic Goel, an immigration attorney in Greenbelt, Md., said he expects that there will be enough applications between now and Oct. 1 to exhaust next year's cap of 65,000 visas. He said the period for issuing new H-1B visas that will begin on Oct. 1 could close the next day.

Any increase in the number of H-1B visa holders will face opposition from labor groups, especially the IEEE-USA, a unit of the Institute of Electrical and Electronics Engineers Inc. in Washington that says its members are facing record unemployment levels.



"We question the need for a new visa exemption," said IEEE-USA President John Steadman, who noted that foreign graduate students can already work for two years in the U.S. under existing visa rules. "During that time, the company can evaluate their skills and petition for a green card on their behalf," he said.

The bill's prospects are uncertain. The co-sponsors are all Republican, and this is a contentious year for outsourcing. But Congress has acted before to increase the H-1B cap in election years. **46257**

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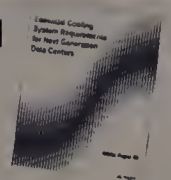

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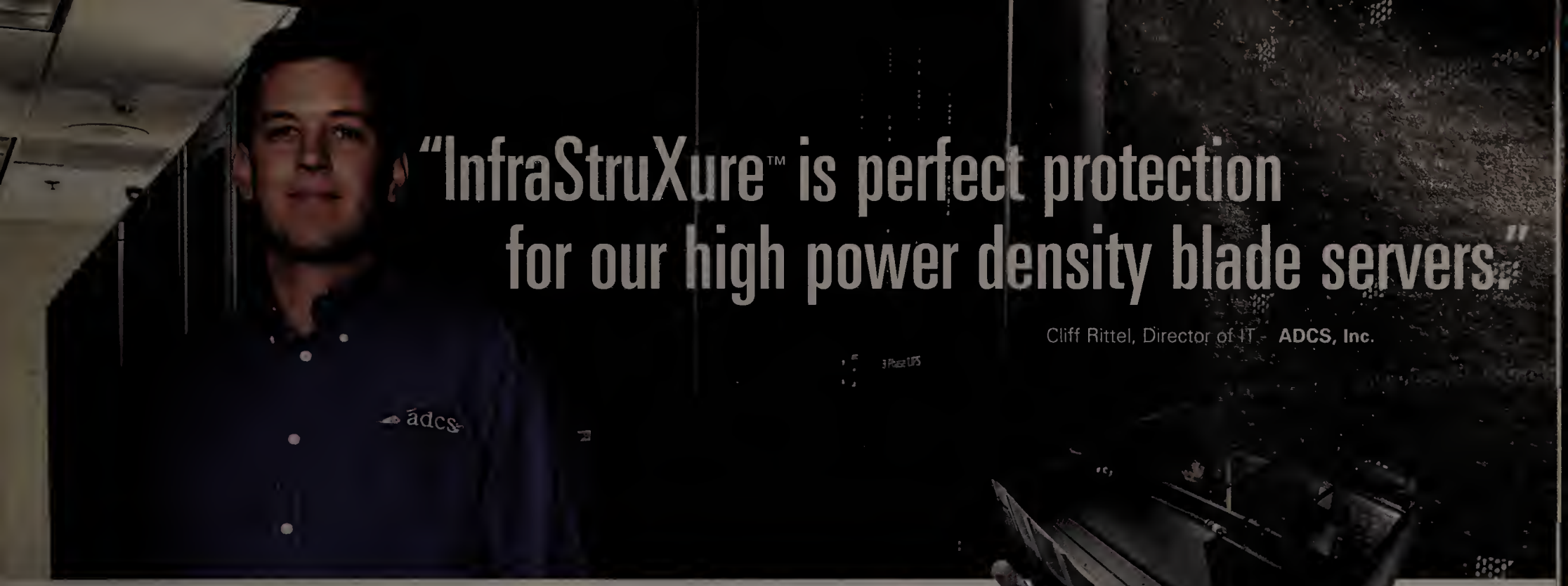

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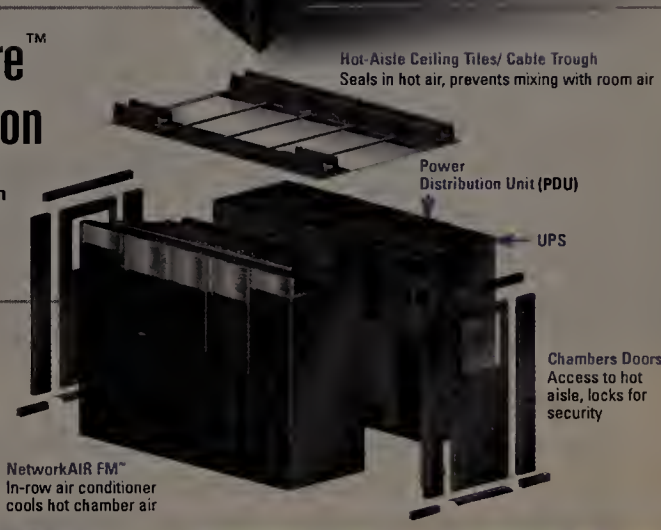

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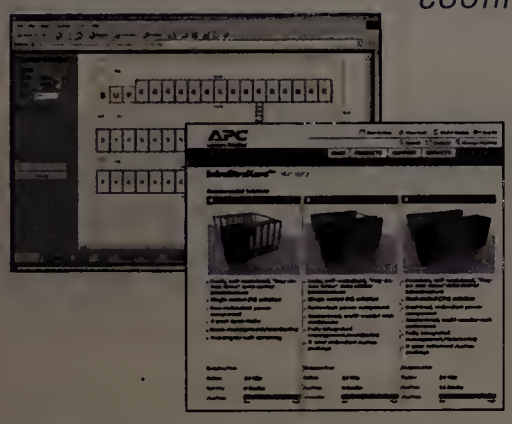
Oliver Rist, Senior Contributing Editor;
Brian Chee, Industry Expert
***InfoWorld**, 3/12/2004*



The InfraStruXure™ Build-Out Tool lets you design and specify InfraStruXure solutions using a Web-based configurator.

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* Network-critical Physical Infrastructure (NCPI) is the foundation upon which IT and telecommunication networks reside.

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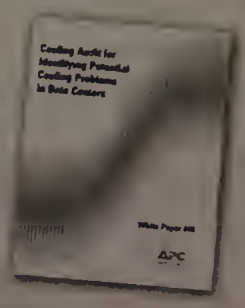

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The End-to-End Networking and Communications Event

Offshore Moves Can Bring Benefits, but Not Without Pain

Users cite savings potential and better flexibility, warn of internal challenges

BY LINDA ROSENCRANCE
NEWTON, MASS.

At first, offshoring didn't sit well with Dave Andre, chief technology officer at Upromise Inc. But economic realities ultimately forced him to send some IT work overseas.

"Our primary objective was to save money," Andre said during a panel discussion on offshore outsourcing at a Massachusetts Software Council meeting here last week. "We were hoping to have secondary benefits, but if we didn't save money, it wasn't worth going forward."

Upromise offers a free service that lets families earn money for college when they make purchases from affiliated stores, restaurants and online retailers; it also operates a college savings investment fund. In late 2002, the Needham, Mass.-based company began outsourcing some software development and systems administration work to Wipro Ltd., which now has about 30 staffers in Bangalore, India, assigned to Upromise.

Andre wouldn't disclose specific figures, but he said Upromise shaved its IT budget by 10% to 20% in the first year of the offshore contract and expects more savings in the future. "The cost savings are real," he said.

Some of the secondary benefits that Upromise has gotten include a round-the-clock IT operation with "follow the sun" development and quality-assurance capabilities, better internal development processes and increased staffing flexibility, Andre noted.

But he acknowledged that the offshore move has also resulted in some painful experiences, such as the need to lay off IT staffers in the U.S. "Transitions are hard work," Andre said. "If I had it to do again, I would start from Day 1 with an offshore outsource model." In a follow-up interview, he said switching to an offshore approach "causes angst to your employee base, and it causes angst to you."

Upromise also outsourced some call center functions to Daksh eServices Pvt., a business process outsourcing firm in Gurgaon, India, that's being acquired by IBM. Andre said the two deals taught Upromise executives that communicating with employees about offshoring plans is important and that offshore training needs and overhead costs will likely be larger than expected.

Swapnil Shah, the CEO of mValent Inc., a software vendor in Tewksbury, Mass., said his company's approach to offshore outsourcing was to create parallel engineering teams in the U.S. and India. That enables the engineering staff to work an 18-hour day, he said, adding that the offshore strategy has resulted in lower costs and faster time to market.

Choosing a business partner with the requisite technical skills was critical, Shah said.

Sandeep Swadia, head of marketing at Virtusa Corp., a software developer and IT services provider in Westboro, Mass., agreed. "There are different horses for different courses, and you have to pick the right one for the right job," he said. "Make sure their vision matches your vision. The focus just can't be cost."

46214

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MARYFRAN JOHNSON

Disaster Homework

SOME MONTHS AFTER the 9/11 attacks, I interviewed the CIO of a large Wall Street law firm located only blocks from the collapsed World Trade Center towers. She talked about the tremendous outpouring of sympathy and concern from hundreds of the attorneys' clients in the 24 hours after the disaster.

Then Day 2 dawned, and the story changed. The clients who called wanted reassurances that their files were safe and that business would promptly get back on track. I remember being shocked by the self-centered attitude of those demanding customers. But it was a reminder that even a major disaster has a short shelf life as an excuse in the business world. What matters most is the speed and effectiveness of recovery.

MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at maryfran_johnson@computerworld.com.

So it's odd that nobody likes to talk about disaster recovery. Vendors use euphemisms like "business continuity" to avoid those two scary words. Companies give lip service to how important such planning is but then fail to fund programs to test their own disaster plans.

We recently surveyed IT professionals from companies with disaster recovery plans. When asked, "Could you locate your disaster recovery plan in the next five minutes?" one-third of the 227 respondents admitted they couldn't. Of 281 IT pros asked how often they perform remote-office data backups, only 58% said they were doing so every day.

With all the risks to manage in the world today, from natural disasters to man-made ones, you'd think this little item would be at the top of the "Important Things We Do to Stay in Business" list. We learned otherwise in talking with a host of experts and executives for this week's Knowledge Center on disaster recovery (beginning on page 33, and at QuickLink a4300). Many of our sources made it clear that this is truly more of a business issue than a technology one. But guess who's usually in charge of the disaster response plan? IT, of course.

Don O'Connor, CIO at Southern California Water Co., contends that even underprepared IT organizations have at least given some thought to system recovery and uptime restores. But business units are much more likely to be clueless about their roles. "In my experience, IT can respond relatively quickly," O'Connor says. "The part that's missing is the users."

If that's the situation at your company, what should you do about it? In this issue, we provide plenty of cost-conscious tips and insider advice from IT managers who have faced disaster and recovered. Their experiences raise questions you should be able to answer. For starters:

■ How strong is your disaster recovery documentation? What if the head of sales is the one who has to turn on the systems in the data center? "We fashion our document so anyone in the business should be able to restart an application," says Elbert Lane, a lead software developer at Gap Inc. in earthquake-prone San Francisco.

■ Which applications are really the most important ones to restore first? At most companies, it's probably e-mail, not the SAP system or the Oracle database.

■ How robust and ready are the plans at your suppliers, your outsourcers, your business partners? Who's checking on them?

■ What are your most critical access issues? Getting to the data, the systems or the people?

Disaster recovery is one test that IT can ace — without big budgets or expensive consultants. It's a matter of common-sense planning, attention to process and doing your disaster homework. **46219**

PIMM FOX

Don't Own Your IT

WHAT BUSINESS are you in?

If you're not in the IT business, pull the plug on your IT department. And I'm not talking about sending the jobs to India.

Kansas City, Mo.-based H&R Block decided in 1999 that it's not in the IT business. So, rather than building an IT infrastructure, the tax preparer turned to Eden Prairie, Minn.-based Digital River.

H&R Block wanted someone to handle the IT that pumps out all those tax forms. It wanted round-the-clock uptime. It wanted all the bells and whistles that come with remote and redundant data centers. And it wanted an easy interface so it could quickly change product offerings and promotions.

Sure, in every company there are those who contend that homegrown IT is necessary because the business is unique. Or that you need your own IT operation because there's no way to offload responsibility for maintenance and changes in a high-pressure environment.

Well, imagine compressing a year's worth of business into four months.

That's life at H&R Block, where frantic taxpayers download tax-preparation software at the last minute. (January and April are the heaviest months.)

The company has moved 97% of its software business to the Internet and doesn't have an IT department keeping an eye on things. Instead, Digital River runs routine tests to measure the ability of H&R Block's Web site to handle the strain of all those downloads.

The strategic advantage of having a third-party partner operate your site is clear: You get to do what you do best.

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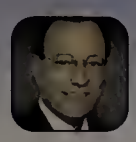

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San Jose Mercury News

Dan Gillmor is technology columnist for the San Jose Mercury News, Silicon Valley's daily newspaper. He also writes a daily Web-based column for SiliconValley.com, a KnightRidder.com site that is an online affiliate of the Mercury News. His column runs in many other U.S. newspapers, and he appears regularly on radio and television. He has been consistently listed by industry publications as among the most influential journalists in his field.

Ken Pasley
VP
FedEx Internet Technology

Ken Pasley provides leadership for the FedEx Express worldwide wireless and mobile architecture. In this position, he oversees strategy, engineering, and development of wireless technology, including FedEx PowerPad, FedEx Private Network and Bluetooth implementation.

Roger Gurnani
VP & CIO
Verizon Wireless

As CIO, Roger Gurnani is responsible for the information systems portfolio development and operation of data centers and communications facilities for the nation's largest wireless voice and data network, which serves 36 million customers.

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CONFERENCE AGENDA *(subject to change)*

For details, updates, and to register visit **www.mwwusa.com/mcwt**

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12:00pm	Pre-Conference Golf Outing
1:30pm	Concurrent Industry Pipelines and Technology Workshop: 1:30pm – Industry Pipelines (8 sessions, 30 minutes in length) 3:30pm – Technology Workshop (90 minutes in length)
7:00pm	Welcome Reception

TUESDAY, MAY 25

7:00am	Buffet Breakfast
8:00am	Welcome and Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – Noon	General Sessions
Noon	Luncheon and Special Presentation
1:30pm – 3:30pm	General Sessions
3:30pm – 5:00pm	Concurrent Breakout Sessions
5:30pm	Solutions Showcase & Expo with Buffet Dinner

WEDNESDAY, MAY 26

7:00am	Buffet Breakfast
8:00am	Opening Remarks
8:15am	Opening Keynote Presentation
9:00am – 12:15pm	General Sessions
12:15pm	Solutions Showcase & Expo with Buffet Lunch
1:30pm – 3:45pm	General Sessions
3:45pm – 5:00pm	"Solutions Spotlight" - Innovation on Stage
6:00pm	Gala Evening

THURSDAY, MAY 27

7:30am	Buffet Breakfast
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11:30am	Conference Concludes

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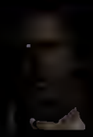

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- ❑ Other IS/IT Department Manager/Supervisor
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- ❑ 1,000 - 4,999
- ❑ 500 - 999
- ❑ Under 500

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- ❑ Under $100 Million

Your organization's annual IT/IS budget for all IT/IS products:
- ❑ Over $1 Billion
- ❑ $500 Million - $999 Million
- ❑ $100 Million - $499 Million
- ❑ $10 Million - $99 Million
- ❑ $1 Million - $9.9 Million
- ❑ Under $1 Million

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- ❑ Apple
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H&R Block's manager of online software marketing, says breaking out of the traditional method of delivering software in boxes has cut H&R Block's cost of shipping and materials while helping customers, who don't have to wait for tax software to arrive. It has also eliminated expensive inventory.

Of course, H&R Block is reaping the rewards of greater consumer access to broadband connections. But it has been able to translate that trend into a 10% drop in the number of customer support questions. It has also cut the number of phone operators and mail-processing agents.

What trend have you taken advantage of lately?

And since Digital River handles all IT support, all uploading and downloading of software, and all upgrades and problems, H&R Block can concentrate on marketing and product changes. The company also gets immediate access to sales-traffic and transaction reports.

So stop spending time and money owning and operating an IT system. Do something useful, like your taxes. **46067**

THORNTON A. MAY

Floaters, Swimmers And Sinkers

THE CURRENT CROP of IT bosses scores pretty good marks in leadership. It's their reports who are of greater concern to futurists and who are the specific focus of research aimed at assessing leadership skills.

In conjunction with ongoing curriculum-design efforts, the IT Leadership Academy at Florida Community College of Jacksonville asked 120 IT bosses to conceptualize their direct reports as "beakers" of leadership skills. The evaluators hypothesized that not all the beakers would be full.

We questioned IT bosses about "patterns of emptiness" in the leadership beakers of their direct reports. The interviews demonstrated that although IT shops may have the leadership they need today, they may not have it tomorrow.

The bosses we talked to each had three to 18 direct reports. (The median number was six.) Of the entire population of direct reports, 18% were judged by their bosses to have full leadership beakers.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at **thorntonamay@aol.com.**

These full-beaker direct reports were seen as sharing several characteristics. They were aware and adaptive individuals, first-class "noticers" who were able to respond creatively and with presence of mind to changes in the environment. They were also compelling communicators who were able to engage others through shared meaning and to create a sense of urgency for the task at hand. They were found to be masters of organizational culture, meaning they knew how the organization really worked. They were comfortable and conversant with financial and accounting processes and terms and knowledgeable about business drivers and opportunities. They were connected to key players both inside and outside the enterprise, and they were perceived as being authentic and high-integrity human beings.

We also looked at five leadership attributes of the 82% of the direct reports not blessed with overflowing beakers: attitude, mental model, energy, connectedness and curiosity.

Analysis revealed the following three subspecies of direct reports:

Sinkers: About 12% of the less-than-full-beaker population. These aren't happy employees. They tend to have a chip on their shoulders and nurture resentment against the organization. Their mental model is self-centered; they do the work placed in front of them and little else. Their energy is low, they're unconnected to both the internal and external communities, and they have no curiosity.

Floaters: About 50% of the less-than-full population. They have good attitudes and reasonable energy for the tasks in front of them, but they're a little lean when it comes to being connected to the driving mental model of the enterprise, and they lack the curiosity and energy to connect to people who might be able to explain the big picture to them — how IT adds value or where it's going in the company.

Swimmers: About 38% of the less-than-full-beaker population. Swimmers are positive and upbeat, if unfocused. They lack a mental model but would buy into one if it was explained to them. They have good energy and like hard work. They are easy to connect with but, sadly, are underconnected. They have curiosity but haven't acted on it.

Swimmers are the future of the organization. If treated respectfully, their attitudes will blossom. Involving them in enterprise strategy formulation, along with focused investment in management development programs and sponsorship of networking opportunities, will fill their beakers to the brim.

Floaters can be groomed to become swimmers, if they're mentored and if you can convince them that what they do really matters. Sinkers usually do nothing other than sink.

Investing in the leadership skills of direct reports is one of the best IT investments you can make. By granting the freedom to learn and to teach, you will bestow upon your company the freedom to print money. **46155**

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READERS' LETTERS

To Lead or Follow?

IS IT RELEVANT? Bob Metcalfe and Nicholas G. Carr are both right ["Speakers Clash in Spirited Debate Over IT Relevance," QuickLink 45408]. In many companies that simply follow the lead of innovators and use dominant platforms and systems, IT isn't worth spending money on. In cases like that, you're best off keeping the technology around but not doing anything special. Followers such as these prove Carr right every day. Nobody ever got fired for choosing what everyone else chooses.

Metcalfe chooses the path of excellence. For leaders, there are still places to find competitive advantage using IT. The problem is that if you're breaking a trail, you may not always use the easiest path. That is time-consuming and costly.

There's a huge difference between avoiding a competitive disadvantage and providing a competitive advantage. One is hard. It requires imagination and courage. One is easy. It requires solid management skills. Either choice may be appropriate in a given situation. Neither is wrong. Where do you want to go?

Alma J. Wetzker
Former IT manager, Minneapolis, almaw@comcast.net

IT'S NOT SO SURPRISING that Metcalfe and Carr were talking right past each other. Carr's point was simply that IT, in and of itself, may not provide a competitive advantage. Metcalfe's point was that IT innovation and those who skillfully take advantage of it early on will get a competitive advantage.

The message to be derived from both men is that any competitive advantage from IT innovation may be short-lived. As a consequence, for a company to maintain an advantage through IT, it will need to continuously invest in new IT capabilities, and this investment will need to be done in the most effective way possible.

As history has shown, successful implementation of new technologies is a hit-or-miss affair; sometimes it's successful, but other times it's an abysmal failure.

As with any highly charged debate, the truth lies in an amalgam of both sides' data and positions. In this case, the truth boils down to this: Know what you're buying and why you're buying it, have a successful plan for using it, and be aware that the cycle of innovation and upgrade may be a treadmill that you can't get off of without a lot of pain.

Michael Frank
Network designer, Boeing Shared Services Group, El Segundo, Calif.

AT LEAST in the way they were reported in the article, Metcalfe's arguments don't address Carr's arguments. In fact, they seem to reinforce Carr's arguments. Metcalfe states that IT spending is currently high and that IT is seen to be a high priority. But this doesn't address whether such spending or perception is advantageous. In fact, it heightens the urgency and importance of Carr's contention, if that contention is indeed correct.

Metcalfe also asks, "Who will provide testbeds?" This is like asking me to be a guinea pig because someone else needs the results of an experimental drug. Again, it legitimizes Carr's claim that one shouldn't try to lead with IT.

My own take on it is that, as is common in many heated arguments, there is really no argument at all. The answer hinges on which IT we are talking about. It is usually quite clear which IT is strategic and which IT is infrastructural.

Rajeev Jain
Consultant, Ann Arbor, Mich., rajeev.jain@usa.net

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SEEING Voices

VOICE-OVER-IP MONITORING TOOLS HAVE EVOLVED TO REMEDY THE UNIQUE PROBLEMS OF CONVERGED VOICE/DATA TRAFFIC ACROSS ENTERPRISE-SCALE NETWORKS.

BY ROBERT L. SCHEIER

WHEN KEVIN LOPEZ began sending voice calls over his IP data network using a new IP telephony system two years ago, he had no way of monitoring voice traffic to maintain the quality of calls. "We didn't have any monitoring on the voice side, so we were totally reliant on our [data] network counterparts," he says.

Now, using Avaya Inc.'s Integrated Management software, he can configure a softphone — an applet that lets a PC function as a telephone — place a call between any two points on the network and hear the voice quality while tracking network metrics on screen. "It's almost like a speedometer," says Lopez, national manager of telecommunications at Grant Thornton Inc., a global accounting and auditing firm in Chicago with about 3,500 users on voice-over-IP systems. "[It] will show you in red, yellow and green where the call was in terms of lost packets, or any sort of error it encountered." The tool can also "roll back" the speedometer to view and diagnose network conditions at the precise moment when a user says he was having trouble.

VoIP still requires special tools and skills because voice traffic is far more sensitive than data to common problems such as dropped or delayed packets. But as tools for managing VoIP traffic have evolved, Lopez and other VoIP managers have become increasingly confident that they can manage even large-scale deployments of voice communications systems over converged voice/data networks.

Looking back at what he was capable of doing with the management tools that were available when he first deployed VoIP, Lopez says, "Life is so much better. We can see troubleshoot our own [problems] . . . and see exactly what's happening."

Network managers say the place to start is with network components and management tools that support Ethernet quality-of-service (QoS) standards for prioritizing voice traffic, and with management software that can do real-time, end-to-end monitoring of voice traffic across a LAN or WAN. Administrators should also do upfront evaluations of their networks to ensure that they can handle VoIP and

Continued on page 24

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Continued from page 21

lcarn to watch for subtle problems that don't interfcre with data applications but wreak havoc with voice quality.

Voice traffic isn't a bandwidth hog, but on a convcrged network it can fall victim to unexpected, short-lived congestion caused by, say, a user initiating a streaming video application. One key metric to track is propagation delay. A lag of only 50 milliseconds can create echo in a call, while delays greater than 250 milliseconds can cause one speaker to talk over the other.

Jitter, the variation in arrival times of voice packets that should all arrive at the same moment, is another problem. One way to reduce jitter is to store and hold early-arriving packets until their slower counterparts arrive. However, making such "jitter buffers" too large can itself increase delays in the processing of the voice packets, reducing voice quality.

Designers of VoIP networks need to do upfront assessments to be sure their networks can handle the demands of temperamental VoIP traffic. They should also pay close attention to network performance metrics that barely mattered in the more familiar world of data traffic. But to do that, administrators need specialized tools.

Basic Requirements

The first requirement for any network management tool is that it must support QoS. Sean McRae, vice president and CIO at Prudential Northwest Properties, a real estate firm in Portland, Ore., uses Network Supervisor monitoring software from 3Com Corp. in Marlboro, Mass. The software "allows us to keep an eye on our WAN traffic betwecn all of our servers and routers" to ensure that voice packets gct top priority, he says.

The second requirement is the ability to perform real-time traffic monitoring so administrators can troubleshoot short-lived problems that cripple voice quality. Anothcr common and uscful feature is thc ability to see the condition of the network at the point in time whcn the uscr reportcd a problem.

Nctwork managers also need a tool that can monitor all of thc network components along the call path that might affect voicc quality. Lopez, for example, wants to scc alerts not only for his IP private branch cxchanges, but also for switchcs or any othcr componcnt that is failing or ovcrloadcd.

Sources of management tools include the vendors that make network components such as switches and routers, as well as the manufacturers of IP telephony systems. For example, Nortel Networks Ltd.'s Optivity Policy Services and Optivity Network Management System provide central management and control of QoS across a network.

Third-party management software vendors also focus on VoIP management. Concord Communications Inc.'s eHealth Voice Quality Monitor assesses network readiness and monitors ongoing voice quality. The tools aren't cheap; a basic eHealth system starts at $6,000, and a more comprehensive package that manages QoS and the end-to-end network infrastructure starts at about $150,000.

NetIQ Corp.'s Vivinet Manager Suite provides proactive network and system monitoring and automatic alerting. It provides integrated monitoring of IP telephony, unified messaging and video applications. The suite also helps network administrators determine if voice problems are being caused at the hardware, operating system or application level. Pricing varies by customer environment, but a system capable of managing a 100-phone Cisco CallManager deployment costs about $6,000.

Another NetIQ application, the $5,000 Vivinet Diagnostics, finds the source of voice quality problems, identifies the causes and prioritizes them, combining network discovery, synthetic transactions and monitoring of LANs, WANs and network devices.

Because VoIP management is still a relatively immature area, management tools supplied by IP telephony system vendors such as Nortel, Cisco Systems Inc. and Avaya work best with their own products, says Robert Rosenberg, president of Insight Research Corp. in Boonton, N.J. And some management features may not work with gear from other vendors.

That can be a problem because most customers use VoIP technology from a number of vendors, says Darrell Epps, a technical assistance manager at NextiraOne LLC, a systems integrator and managed service provider in Houston. However, he says, over the past 12 to 18 months several independent vendors of management software havc made progress in producing software that can manage VoIP components from multiple vendors. Thcy include NetIQ and Concord as well as Micromuse Inc., which offers a system called Netcool for VoIP.

Six Ways to Improve VoIP Traffic

1. Assess your network to ensure that all components can handle both voice and data.
2. Put management tools in place before the first call is made.
3. Configure network QoS functions to give voice traffic top priority.
4. Manage voice and data using a common tool set.
5. Do real-time, end-to-end monitoring of voice quality.
6. Cross-train voice and data staffs so they understand each other's needs.

SOURCE: CONCORD COMMUNICATIONS INC., MARLBORO, MASS

Some equipment vendors are also teaming up with third-party vendors to provide management tools that aren't tied to a single vendor. For example, Nortel includes NetIQ's Vivinet Management as part of its Enterprise Network and Service Management capabilities. And the Visual UpTime Select performance management application from Visual Networks Operations Inc. ships with Cisco's routers and can also be integrated with system and network management tools such as Hewlett-Packard Co.'s OpenView, says Naresh Kannan, director of product strategy at Visual Networks.

And many VoIP tool vendors are working to combine VoIP functions with their data management products, or with those from other vendors, in order to provide a single view of both voice and data traffic on the converged network. For example, Nortel is shipping IP phones that support real-time monitoring of voice calls and send alerts of problems that could affect voice quality to the same applications that network managers use to monitor data traffic. This reduces thc number of management consoles customers must buy and monitor — and makes it easier to find and fix problems. McRae also uses his managcment software, Network Supervisor, to monitor both the data and voice side of his network.

Bruno Battochio, communications specialist at Falconbridge Ltd., a Toronto-based mining company, uses a combination of Nortel's Optivity management software and a traditional packet analyzer to monitor the performance of IP phones linked to a Nortel Business Communications Manager system in an underground mine. "We didn't mix and match equipment" from multiple vendors, Battochio says, adding that he wanted to avoid situations he has faced in the past where different vendors blamed one another for a problem instead of fixing it.

Looking forward, vendors hope to provide "self-healing" networks with tools that not only proactively find problems but also fix them automatically. By 2005, Nortel hopes to be shipping a version of Optivity that can automatically solve voice quality problems by resetting a network port or redefining the QoS settings implemented on a switch, says Clive Foreman, vice president of engineering for enterprise network and service management at Nortel in Brampton, Ontario.

John Montgomery wants management tools that can automatically reroute voice packets if a slowdown hits part of the network, something that he says is now "a highly manual process." Montgomery, vice president and chief technology officer at Embarcadero Systems Corp. in Alameda, Calif., is about one quarter of the way through a plan to move 1,000 users to Cisco's IP telephony system. Although each upgrade of CiscoWorks management software brings more features, he says proactive troubleshooting features have been slow to materialize.

Despite some limitations, most observers says today's VoIP management software is up to the task of managing large-scale VoIP deployments — although it can cost anywhere from $25 to hundreds of dollars per user per year, depending on the number of users and the range of functions required, says Ronald F. Gruia, an analyst at Frost & Sullivan Ltd. in Toronto.

"The management tools we have today are designed for installations of tens of thousands, if not hundreds of thousands, of users" says McRae. But choosing the right tool, and knowing how to use it, requires an understanding of the finicky new world of VoIP.

45708

Scheier is a Computerworld *contributing writer in Boylston, Mass. He can be reached at rscheier@charter.net.*

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BRIEFS

Vendor Upgrades Event Technology

Network Intelligence Corp. in Westwood, Mass., has upgraded its security event management software and hardware. The company's enVision Version 2.003 software is designed to let users compare security-related data with similar data captured in the past. It also features a customized alerting feature and expanded device support. Network Intelligence's new 50 Series event management appliances feature the latest enVision software and a dedicated object database. Pricing for the 50 Series starts at about $59,000 for midsize companies and about $190,000 for large enterprises.

Intranets.com Adds Calendaring

Intranets.com Inc. in Woburn, Mass., has added functions to its Online Collaboration Suite, which is designed to allow corporate users to manage and coordinate events anywhere in the world using a Web browser. The company said that the new calendaring features will let users check for scheduling conflicts, synchronize appointments with a Palm-based handheld or Microsoft Outlook and notify participants of meetings via e-mail. They are available now at no additional charge to Intranets.com customers.

NetScreen Offers SSL Meeting App

NetScreen Technologies Inc. in Sunnyvale, Calif., has announced the availability of its new NetScreen Secure Meeting, a Secure Sockets Layer-based appliance for securing online meetings and application-sharing sessions. NetScreen said that the appliance lets companies securely provision online meetings and collaborative sessions with up to 250 users. The appliances support policy-based authentication, authorization and central management of users in a collaborative session.

ROBERT L. MITCHELL

Almost Real Time

THERE ARE DOZENS OF WAYS to search for flights to Florida, and I tried them all. I carefully worked each of the three big Web travel sites at the same time, juggling multiple browser windows. Orbitz, Travelocity and Expedia each offered different results. I tried alternative dates and airports. After more than an hour, I emerged from my office and called in my wife to confirm the final choice, bragging that the savings had been worth the time spent. But when I made that last mouse click to commit the transaction to my credit card, the reservation didn't go through.

My wife, who now calls me "Mr. Comparison Shopper," thinks I'm not playing with a full deck. But I suspect that the true problem was that I wasn't playing in real time.

The airline reservations business is probably closer to real-time computing than any other industry except for financial services. But the database interactions among business partners required to provide real-time reservations data shows just how big a challenge real time presents.

Until the moment I tried to book my flight, I wasn't talking to the vendor's primary reservations database. I was accessing a secondary database designed for inquiries. Using such databases for flight searches makes a lot of sense, since the IT folks don't want thousands of queries bombarding the systems executing transactions that bring in real revenue.

Sabre Holdings' arrangement is typical. The global distribution system (GDS) vendor's high-speed, fault-tolerant HP NonStop servers consummate deals in a highly optimized database. At the same time, MySQL databases — 45 of them residing on an Itanium-based Linux server farm — serve up lowest-fare flight data in response to customer inquiries.

Unless fare price and seat-availability data presented to customers is updated in real time, users may not learn that a fare is unavailable until they try to complete the purchase. Sabre has addressed part of this issue by delivering continuous, live updates from the NonStop system to its MySQL database server farm.

A third-party data synchronization tool from San Francisco-based GoldenGate Software provides synchronous updates between databases. That's one reason why my corporate travel agent, Suzette, never has a problem confirming a fare using her direct connection into the Sabre system. She says employees like me call all the time saying they've gotten a better fare. "I say, 'That's great; see if you can complete it.' And they can't," she says.

The reason they can't may have something to do with the way reservation systems receive updates from individual airlines. For example, at Sabre, secondary databases contain only fares, rules and schedules. Prices are calculated in the primary NonStop database, and for real-time seat availability, the reservation system must query the individual airlines' mainframe databases.

Even the pricing information isn't in real time: Sabre and other GDS vendors receive updates five times each day from Airline Tariff Publishing Co., an industry cooperative. But providing real-time seat availability data is the biggest challenge.

A travel Web site can generate 100 searches per second that sift through 1,000 flights each. The volume of requests needed to verify seating for all of those would overwhelm the airlines' availability databases. To get around this problem, travel Web sites cache data and display hundreds of fares that the system predicts will be available.

The downside is that customers may receive options that don't exist — either because the seating is unavailable or pricing data has changed — and won't know it until they try to make the purchase. The alternative, which Sabre prefers, is to confirm availability in real time but show fewer options.

The airlines don't like Web sites caching availability information, but they can't respond to the potential volume of incoming requests, says Alan Walker, vice president at Sabre Labs. His company would like to bring a copy of each airline's master seat-inventory database in-house and receive real-time updates to it. In this way, it could compute availability and offer a larger number of accurate flight options to users. But in a round-the-clock system with such high transaction loads, Walker says the transition would be like "changing a tire at 100 miles per hour."

However, Walker doubts that these issues have anything to do with why I couldn't book my reservation. The other reason why Suzette never fails to book a ticket is because, unlike me, she can hold seats before they're purchased. So although it's possible that an inaccuracy in my fare search results was to blame, it's more likely that time spent comparison shopping did me in. Most likely, Walker says, "your seats were sold out from under you." And for some strange reason, my wife thinks that's funny. **46191**

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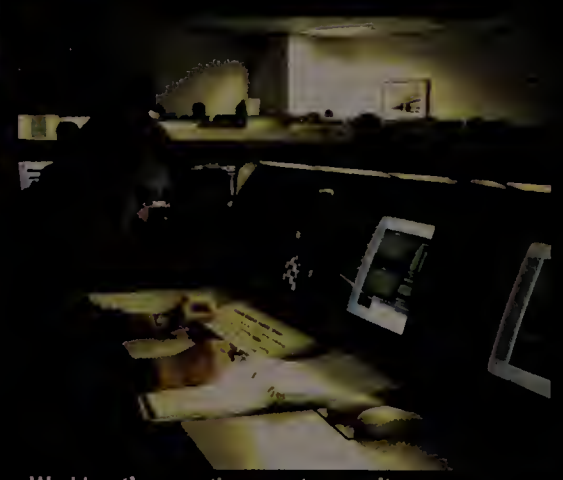
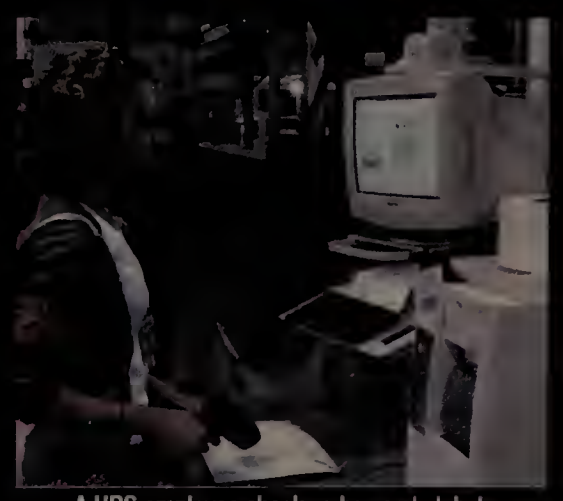
An igloo-shaped container of packages is pushed across the rollerball floor.

Overhead cameras read bar codes on the fly.



Worldport's operations center monitors conveyors.



A UPS employee checks a bar-code label.

PHOTOGRAPHY COURTESY OF UPS

IT Drives the UPS Machine

Automation at the Worldport hub speeds up package sorting, cuts manual labor and helps UPS compete with rival FedEx.

BY BOB BREWIN

EVERY NIGHT, United Parcel Service Inc. processes an average of 600,000 packages through its massive Worldport hub in Louisville, Ky. One hundred aircraft fly in and out of the 4 million-square-foot facility. It's a feat of industrial choreography that the company couldn't accomplish without advanced IT systems, says Jovita Carranza, vice president of air operations.

Carranza, who started her career with UPS in Los Angeles loading trucks, says it would be cost-prohibitive to handle that package volume manually. Plus, the Atlanta-based company has to process all of the packages slated for overnight delivery between 11:30 p.m. to 3:30 a.m. — a goal it couldn't meet if it had to sort them all manually, she says.

Moreover, automation has helped UPS increase employee retention by reducing the manual workload, says Al Rapp, vice president of human resources at the UPS Airlines unit.

That's important for UPS, Rapp says, because worker turnover threatened to tap out the labor pool in Louisville. Brian Clancy, a consultant at transportation and logistics consulting firm MergeGlobal Inc. in Arlington, Va., agrees. He says that by cutting the amount of manual labor involved, UPS can better attract and retain the 5,000 workers needed to staff Worldport.

Worldport's IT and automation systems run on a mind-boggling array of hardware, including almost 14,000 computer devices (see box, next page). These systems, which include 30TB of online storage, are networked via 5,500 miles of fiber-optic cable and control 122 miles of conveyor belts that move the packages, according to Ted Gallagher, Worldport's systems manager.

Managing 'The Machine'

UPS invested $100 million in software development for the Worldport applications, says Gallagher, who refers to the combination of hardware and software as "The Machine."

Though UPS used some outside consultants, CIO and Senior Vice President Ken Lacy says the company had no choice but to develop the infrastructure in-house, "since it was not available off the shelf." Besides, in-house development has made it easier to maintain and troubleshoot the systems, he says.

Gallagher says Worldport runs on 10 major applications tied together by company-developed middleware called the Common Message Environment. This software uses a proprietary messaging protocol, allowing for easy transfer of information among disparate applications, including mainframe-based legacy systems and newer e-business applications.

While The Machine manages Worldport, UPS maintains an IT staff of more than 100 people to manage it. That management starts at the most basic level on a daily basis, with what Greg Echsner, manager of the Worldport technical support group (TSG), calls a "pretrip" inspection of critical systems throughout the facility.

About two hours before the sorting process begins, John Music and five other technicians from the Worldport service desk walk through sections of the building, checking key components such as the computerized scales that weigh igloo-shaped containers filled with packages to be loaded on aircraft.

Those massive scales, located at each of the hub's 44 aircraft loading doors, are networked to a system developed by UPS called the Distributed Weight and Balance System, which ensures that containers are loaded onto

This aerial view shows the gigantic size and complexity of Worldport.

UPS Worldport:
Louisville International Airport

Physical infrastructure:
4 million-square-foot building, housing 17,000 conveyor systems with an overall length of 122 miles; built for $1 billion

Operations:
- Processes just under 1 million packages a day in two shifts
- Can sort 304,000 packages per hour
- Individual packages can be sorted in as little as eight minutes to a maximum of 43 minutes

IT infrastructure:
- 5,177 desktop and industrial PCs and terminals
- 505 Intel servers
- 159 midrange servers, including Sun 10000s
- 1,420 printers
- 5,186 scanning devices
- 500 networking components (routers, switches and so on) communicating over 5,500 miles of gigabit-speed fiber-optic cable
- 30TB of online storage capacity
- Database system handles 59 million transactions per hour

aircraft in an order that promotes load stability.

The service technicians also pay particular attention to the status of the scan guns that read the all-important bar codes, testing one out of every five, Echsner explains.

The scan guns account for the majority of hardware problems the TSG handles because the devices are often dropped on the floor.

As the TSG teams finish their work, hub controllers such as Terry Rigdon get settled at their desks in the operations control center high above the Worldport floor. In front of Rigdon are three computer screens that serve as windows into what Gallagher calls the brain of The Machine: the Human-Machine Interface system.

This system allows Rigdon to observe and manage the flow of packages throughout the building. Rigdon can monitor key applications such as the control of the programmable logic controllers (PLC), which direct compressed-air pucks, or bumpers, to push packages from belt to belt or to chutes and deliver the packages to workers for loading into outbound containers.

The PLCs determine where to route the packages based on bar-code labels, which are read either by scanners or high-resolution cameras, Gallagher says. Donna Barrett, a UPS spokeswoman, says 93% of the packages handled by Worldport use these labels, which in UPS lingo provide package-level detail (PLD).

Customer Cooperation

Getting that detailed information requires customer cooperation, which Barrett says the company achieves by explaining the benefits to large shippers and, in some cases, providing them with label printers. Small shippers, including individuals, can create their own labels on the UPS Web site and print them on laser or ink-jet printers.

Project leader Mark Dilk says that when customers create a PLD label, they also automatically feed data about their packages to Worldport over the UPS global network. This helps Worldport staffers build a twice-daily "sort plan," which reconfigures the mammoth facility and its 17,000 conveyors to match the expected package flow, Gallagher says. The sort plan is the key to management of the company's next-day air shipments, he says.

Worldport has to handle package flows that change daily, plus seasonal variations such as huge volume increases at Christmas. To do that, Gallagher says, loading and unloading positions at Worldport and the miles of conveyor belts in between must be reconfigured through the sort plan, which is managed by an application called the Flexible Lineup Editor (Flex).

The 'Secret Sauce'

Flex is the "hidden secret sauce" of Worldport, Gallagher says, because it manages the building configuration "so all the dependent applications know where the packages go." Flex executes this reconfiguration twice a day, he adds, once for the night shift (for next-day packages) and once for the day shift (which processes about 300,000 second-day air packages).

Two systems (one for domestic packages and one for international) feed package-tracking data to the UPS data center in Mahwah, N.J. This information is later used to help customers track the packages over the UPS Web site.

Once a package completes its journey across the 122 miles of conveyor belts, it's directed to a destination chute and loaded in a container, ready to be rolled onto an aircraft. Throughout the process, most packages are touched only twice by humans: once for unloading and once for loading, Gallagher says.

The containers are then pushed onto the automated scales, checked by the Distributed Weight and Balance System and put on an aircraft.

As the last container is loaded, the hum of the conveyor belts momentarily ceases and Worldport grows almost silent. But not for long. In just a matter of hours, another team of Worldport TSG technicians will start to check IT hardware in preparation for the day shift, and Flex will start to build a new sort plan and reconfigure systems for the hub that rarely rests. **45962**

HOMEGROWN APPLICATIONS

UPS spent $100 million to internally develop 50 applications for Worldport. Read about the core systems for managing the hub: **QuickLink 45967**

Preemptive Strikes: The UPS Worldport technical support group defends the system from worm and virus attacks through constant monitoring of hacker and security newsgroups, which leads to an early and effective defense:

QuickLink 45966
www.computerworld.com

FedEx vs. UPS: The Technology Arms Race

FEDEX CORP.'S main hub in Memphis can more than match the UPS Worldport hub in Louisville, Ky., in terms of package throughput, thanks to its automated systems, according to Alex Vergos, a senior technical adviser at the company's services division.

Vergos says FedEx could move 325,000 pieces per hour through its Memphis "small sort" facility, which primarily handles overnight letters. He adds that FedEx can also sort 125,000 small packages per hour using separate automation systems and conveyors in the same 3 million-square-foot building.

That tops the UPS hub in Louisville, which can move 304,000 packages per hour through a 4 million-square-foot building. However, UPS moves a higher volume of large packages through Worldport, such as automobile tires strapped onto wooden pallets, which in turn are placed in metal transporters for sorting.

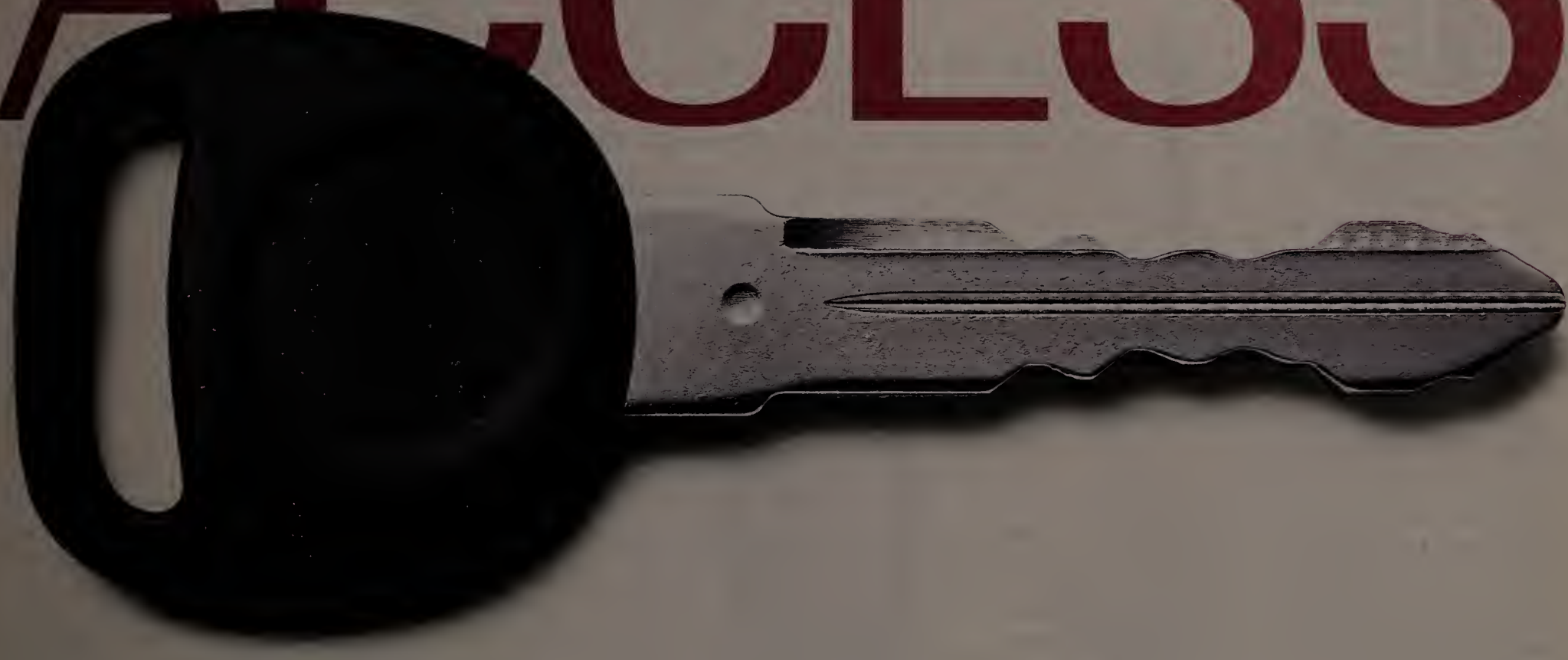
Vergos says the average transit time for a small package in Memphis is about seven minutes. Ted Gallagher, Worldport's systems manager for operations planning and control, says Worldport could move a package of any size through that facility in between eight and 43 minutes.

UPS and FedEx are in a "technology arms race" to move packages smarter and faster, with each "light years" ahead of competitors such as Belgium-based DHL International Ltd. and the Emery Forwarding division of Palo Alto, Calif.-based CNF Inc., says Brian Clancy, a consultant at MergeGlobal, a transportation consulting firm.

Clancy declines to say which rival has the most automated hub. But he says that UPS tops FedEx in using IT and automation to reduce manual workloads in Louisville.

"The number of man-hours per package is less in Louisville [than in Memphis, which] makes Worldport the best," Clancy says.

ACCESS



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EXEC TRACK

Lewis Joins Cruise Company as CIO

Doug Lewis has been named senior vice president and corporate CIO at Carnival Corp., the world's largest cruise company. In the newly created position, Lewis will work with Carnival's 12 operating units to develop a corporatewide IT strategy. He will also head the Miami-based company's IT CIO Council, which is made up of CIOs from each operating unit. Lewis previously served as CIO at Six Continents Hotels Inc., AT&T/Lucent and Pratt & Whitney.

GeoLogistics Picks Kirk to Lead IT

GeoLogistics Corp., a third-party logistics company in Santa Ana, Calif., announced the appointment of Charles Kirk as CIO. Kirk was previously IT head at C&S Wholesale Grocers Inc., a Brattleboro, Vt.-based grocery wholesaler. He also led consumer marketing IT initiatives at General Motors Corp. and logistics projects at FedEx Corp.

Garvey Is New IT Chief at Warnaco

The Warnaco Group Inc., a New York-based apparel company, has named Michelle Garvey CIO. Previously, she served as CIO at MemberWorks Inc., a partnership marketing company, and held IT positions at Brooks Brothers, Ames Department Stores Inc. and Arthur Andersen LLP.

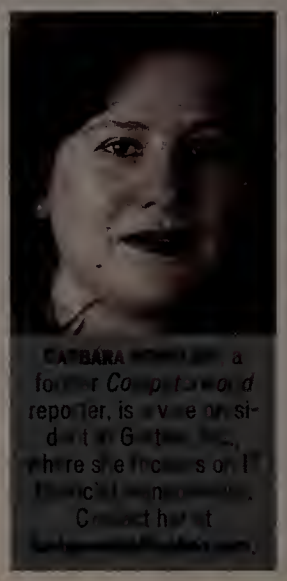
Health Care Firm Taps Probst as CIO

Mark Probst was appointed vice president of IT and CIO at Intermountain Health Care Inc. in Salt Lake City. Prior to joining IHC, Probst was a partner at a consulting firm and CIO of a large third-party administrator.

BARBARA GOMOLSKI

It's Time to Re-engineer IT

INFORMATION TECHNOLOGY PROFESSIONALS are usually the best in the organization when it comes to business process re-engineering. Why is it, then, that the IT group often has some of the most "underengineered" processes in the company? It's true. IT is great at looking at business processes in other parts of the organization but not as comfortable looking at how its own work gets done.



BARBARA GOMOLSKI is a former Computerworld reporter, is vice president of Gomolski Inc., where she focuses on IT financial management. Contact her at [redacted].

There are still many "world-class" IT groups that can build enterprise-scale applications but lack a standard process for problem resolution or operational change management. Increasingly, IT leaders are getting interested in process improvement. This is partly because most companies are still looking for ways to reduce IT costs.

If you're like many IT managers, you've already consolidated servers, audited telecommunications bills and squeezed your hardware and software vendors for better deals. Indeed, for many companies, the low-hanging fruit of IT cost cutting has already been harvested. Further reduction in IT costs may be possible, but it will likely require taking a close look at the processes of the IT organization.

Naturally, increased efficiency isn't the only motivator for sharpening IT processes. By re-engineering its processes, the IT organization can also improve the quality of its service.

There are hundreds of processes in most IT organizations. It's overwhelming to tackle them all at once. In fact, it's probably feasible to look at only three or four key processes in the next 12 months because you have to keep IT running while you do this.

When looking at process maturity, many IT organizations start with the basics, like operational change management. Essentially, these are processes that define how changes to the IT environment are received, recorded, analyzed, approved, prioritized and executed.

Other key areas that often get attention at the early phase of process improvement are IT financial management, configuration and capacity management, and the management of IT assets, procurement and vendors. In addition, IT organizations often consider processes around the management of service levels, application life cycles and quality assurance.

The best way to begin is to focus on the process "pain points" in your organization. For instance, if your staff is still responding to end-user requests in an ad hoc fashion, you'll want to look at your request management processes. Or if you find that basic information about IT capabilities isn't getting out to your internal customers, you'll want to focus on your communications processes. Maybe IT planning is weak, or budget estimates fail to hit the mark.

Whatever the issue, begin by isolating the processes around the problem. (Sometimes there will be no documented processes, and IT leaders will have to interview IT staffers to find out how issues are handled.)

You'll find that there are several examples of well-defined IT processes already in existence. In the application development arena, the Software Engineering Institute's Capability Maturity Model provides a framework for process improvement.

The IT Infrastructure Library, originally developed by the U.K. government, has become a popular framework for key IT processes such as change, problem, configuration and release management. Because of its European roots, ITIL has been more widely adopted in the European Union than it has in the U.S., but its popularity on this side of the pond appears to be growing. The following are some other IT process frameworks worth considering [QuickLink 44933]:

- **Control Objectives for Information and Related Technology (CobiT).** A framework to ensure that IT resources are aligned with business objectives. CobiT defines 34 IT processes and links them to more than 300 tasks.
- **Six Sigma.** A methodology in which processes are continuously refined until their outcomes fall within an acceptable level of defects. Because of its roots in manufacturing, there is ongoing debate as to how applicable Six Sigma is to IT.
- **ISO 9000.** A standard that primarily focuses on achieving predictability in business processes.

Regardless of whether an IT organization uses a predefined methodology for improving its processes, it's a good idea for every IT group to periodically review how the company does things. This is particularly true as IT organizations continue to look for ways to be more efficient and service-oriented.

45730

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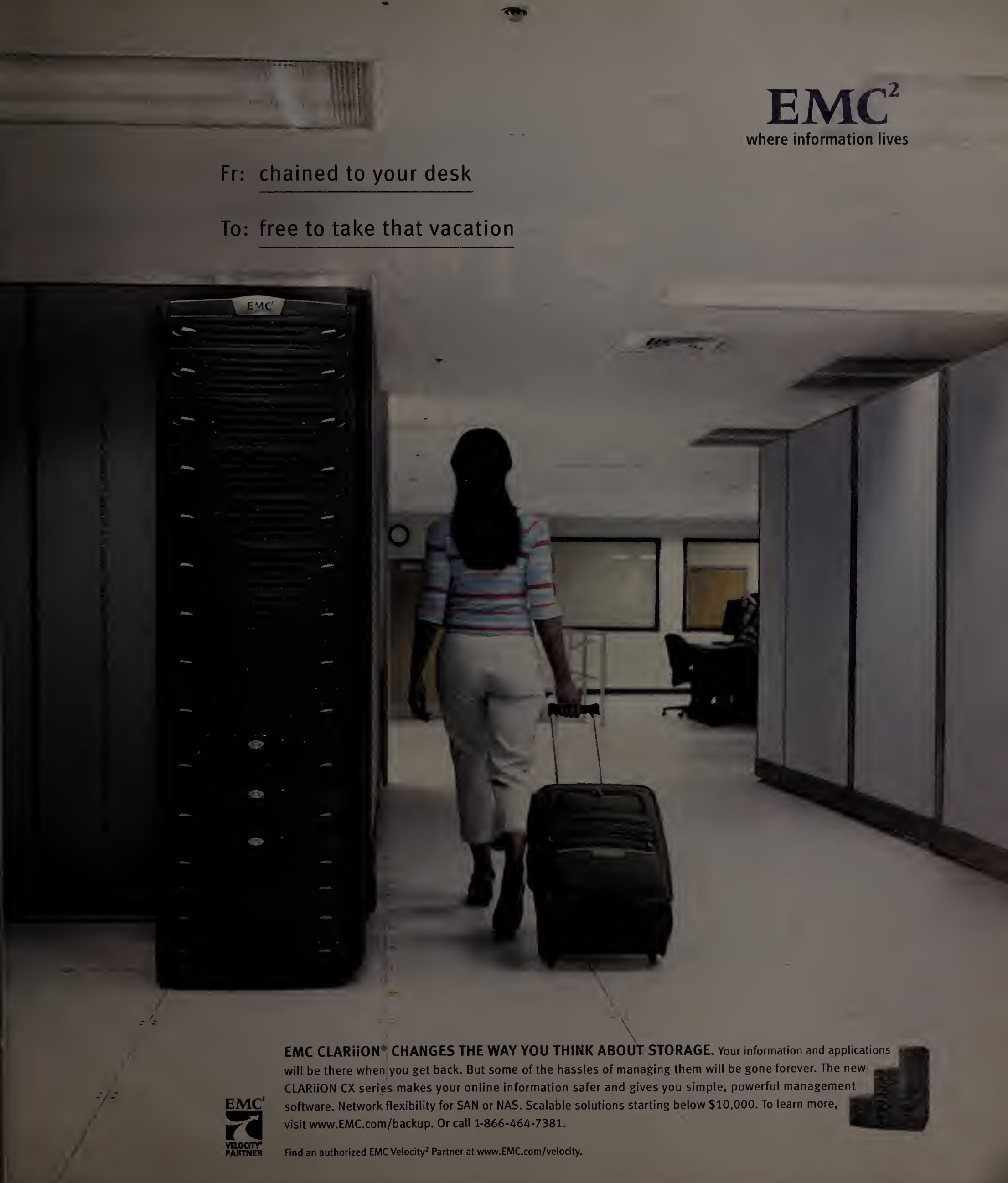

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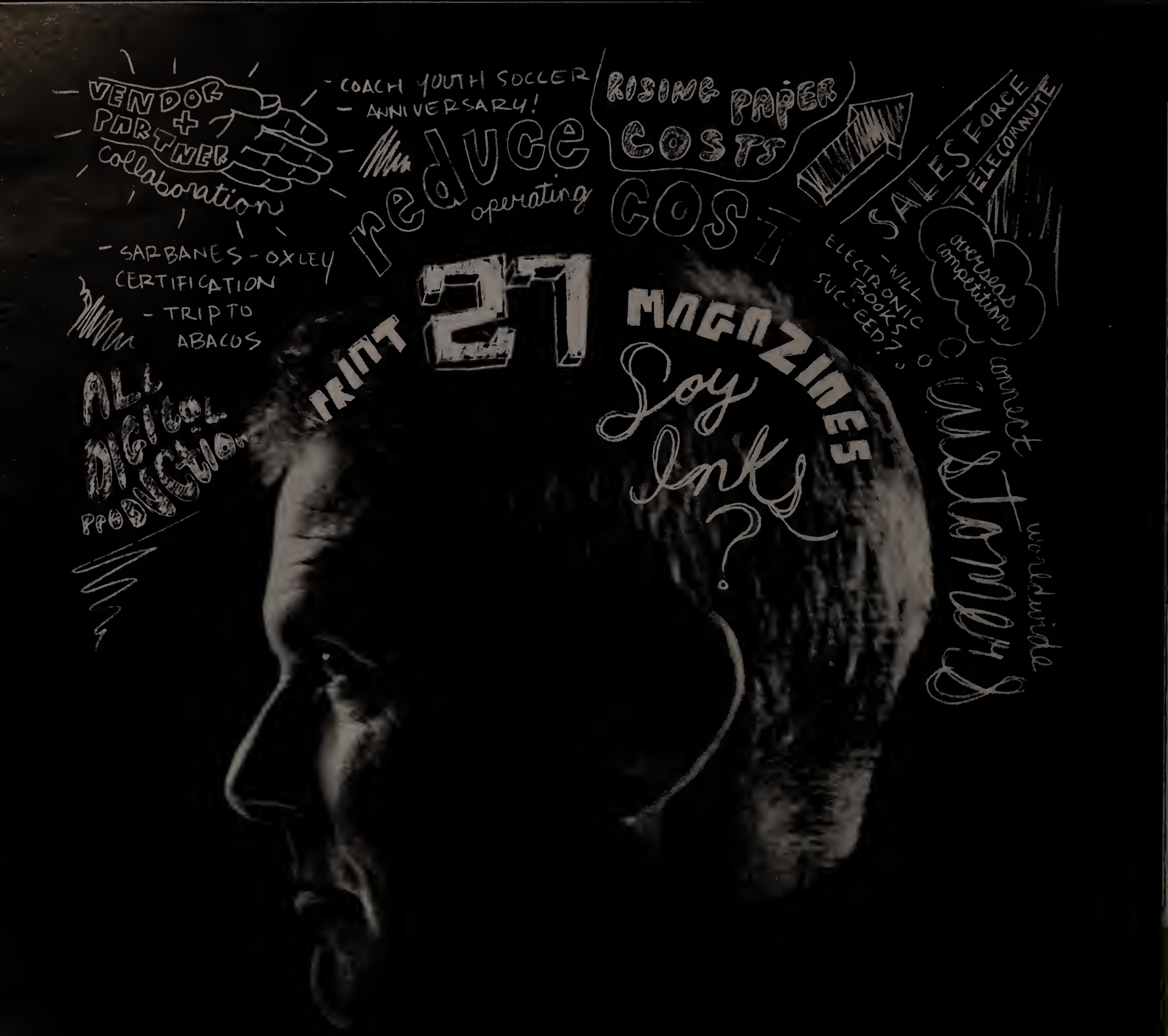

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KNOWLEDGE CENTER DISASTER RECOVERY

04.19.04

Classic Mistakes
Here are the five most common errors that companies make when preparing for disaster. Page 36

A Dose of Reality
Nothing gives you a warts-and-all experience like testing your disaster recovery plan in the real world. Page 39

Listen to Mom
Dear old Mom said to expect the worst. That's good advice for managing disaster recovery efforts with your outsourcers, says columnist Mark Hall. Page 41

Preparing for the Worst

Managers describe their plans for protecting the business from disasters and avoiding classic blunders.

EDITOR'S NOTE

ARE YOU OVERSPENDING ON DISASTER RECOVERY? I know it seems like a ridiculous question. How could you be? Newspaper headlines throw more risks — and regulators throw more requirements — in your face almost every day. Besides, this is a special report on disaster recovery, so of course it's full of suggestions of Things You Ought to Do, which usually require spending more money, not less. Even if your disaster recovery situation is pretty good, you still have to worry about your suppliers and outsourcing contractors.

But it's possible to overspend on disaster recovery, especially if you listen to every vendor saying you must do *x*, *y* and *z* to comply with the Sarbanes-Oxley Act. (None of those sales weasels have actually read the law or its regulations, you can bet on that.)

Tim DeLisle, managing principal at Corigelan LLC, a disaster recovery consultancy in Chicago, says the way to avoid overspending is to establish three tiers of disaster recovery based on business requirements. It begins with the CIO asking business managers which few applications are truly critical and require recovery within 24 hours to keep the business afloat. You don't have to mirror everything! The second tier of applications, which require recovery in 48 to 72 hours, may need only inexpensive tape backup, while the third tier may need nothing at all, DeLisle says.

All that the business executives and regulators really require is that you take prudent steps for business continuity. You don't have to bankrupt the company. **45982**

Mitch Betts is Computerworld*'s Features editor. Contact him at mitch_betts@computerworld.com.*

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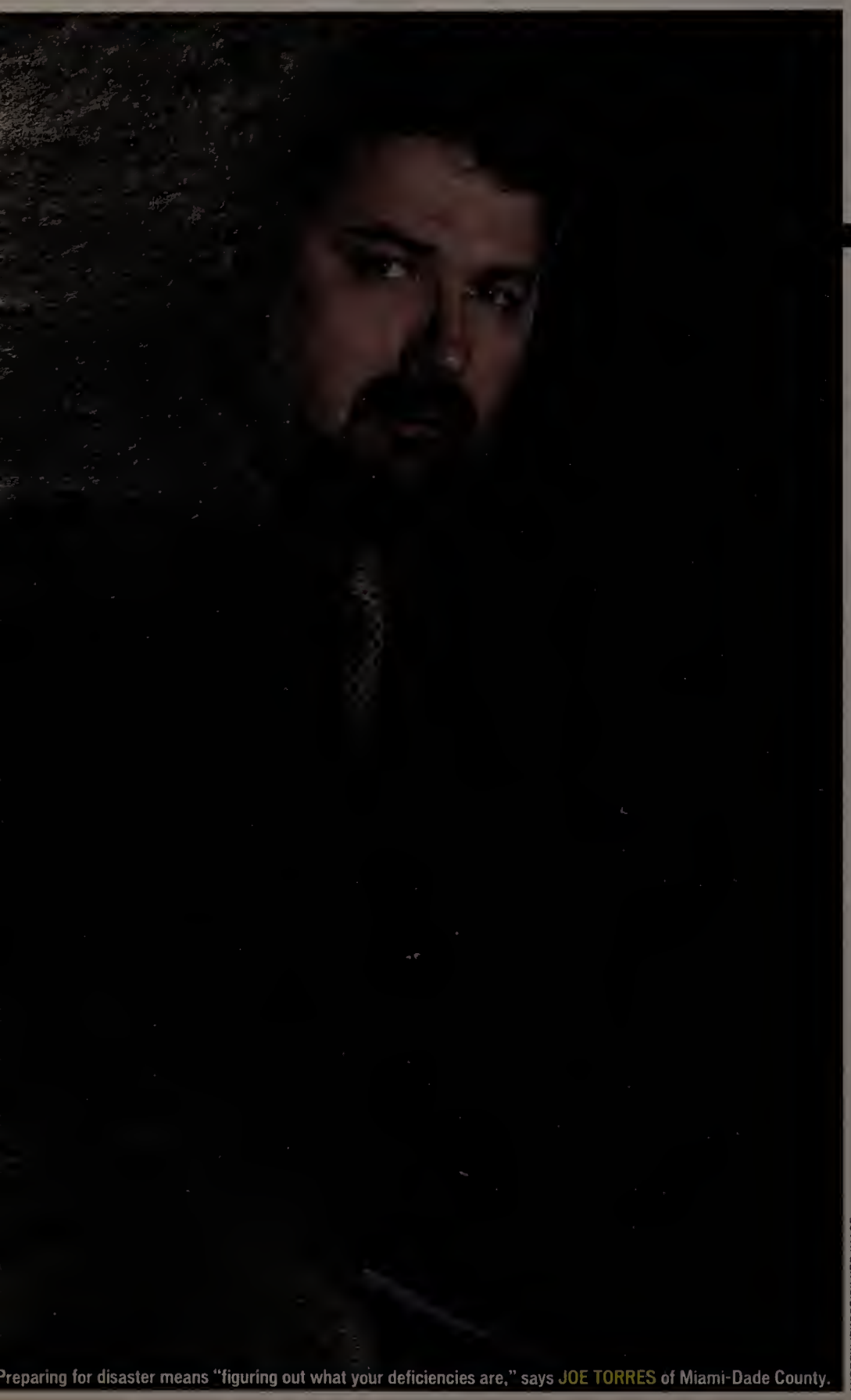
REUSE ON SYNDICATION



Preparing for disaster means "figuring out what your deficiencies are," says JOE TORRES of Miami-Dade County.

ANDREW ITKOFF/SILVER IMAGE

These tips from users with well-worn recovery plans will help keep your business running during the most common disasters. By Lucas Mearian

ONE KEY TO KEEPING your business on its feet in a disaster is anticipating the sometimes cascading effects a catastrophe can have on your IT operation.

Take Miami-Dade County, for example. When a hurricane hit southern Florida in 1992, the county's data center lost power. Diesel generators had overheated when well water ran out because high winds had broken water mains and lowered the water table. IT managers later had air-cooled generators installed.

One of the problems with disaster recovery, experts say, is that although most companies have plans for common scenarios — weather-related emergencies, headquarters lockouts and massive power outages — those plans aren't regularly tested or communicated to end users. In fact, in a recent survey of 283 *Computerworld* readers, 81% of the respondents said their organizations have disaster recovery plans. But 71% of the respondents at companies with plans said the plans hadn't been exercised in 2003.

It takes forethought to avoid a business shutdown during a disaster. Experts and users agree that there are steps you can take to increase your chances of coming through the most common disasters unscathed.

Weather-Related Emergencies

"If you look at why facilities fail [during weather disasters], it's all pretty predictable. They call it an act of God, and I call it an act of stupidity," says Ken Brill, executive director of The Uptime Institute in Santa Fe, N.M.

Hurricanes threaten Miami-Dade County's data center every year from June through November, yet IT managers still struggle with getting everyone to understand the importance of disaster planning. "The challenge we always have is to make sure the staff is completely involved and we have participation," says Ruben Lopez, director of the enterprise technology services department for the county.

Miami-Dade County gives itself a 56-hour window to test its disaster recovery plan each year by cutting over to its alternate data center and restoring data. It uses the time to find deficiencies and later corrects them.

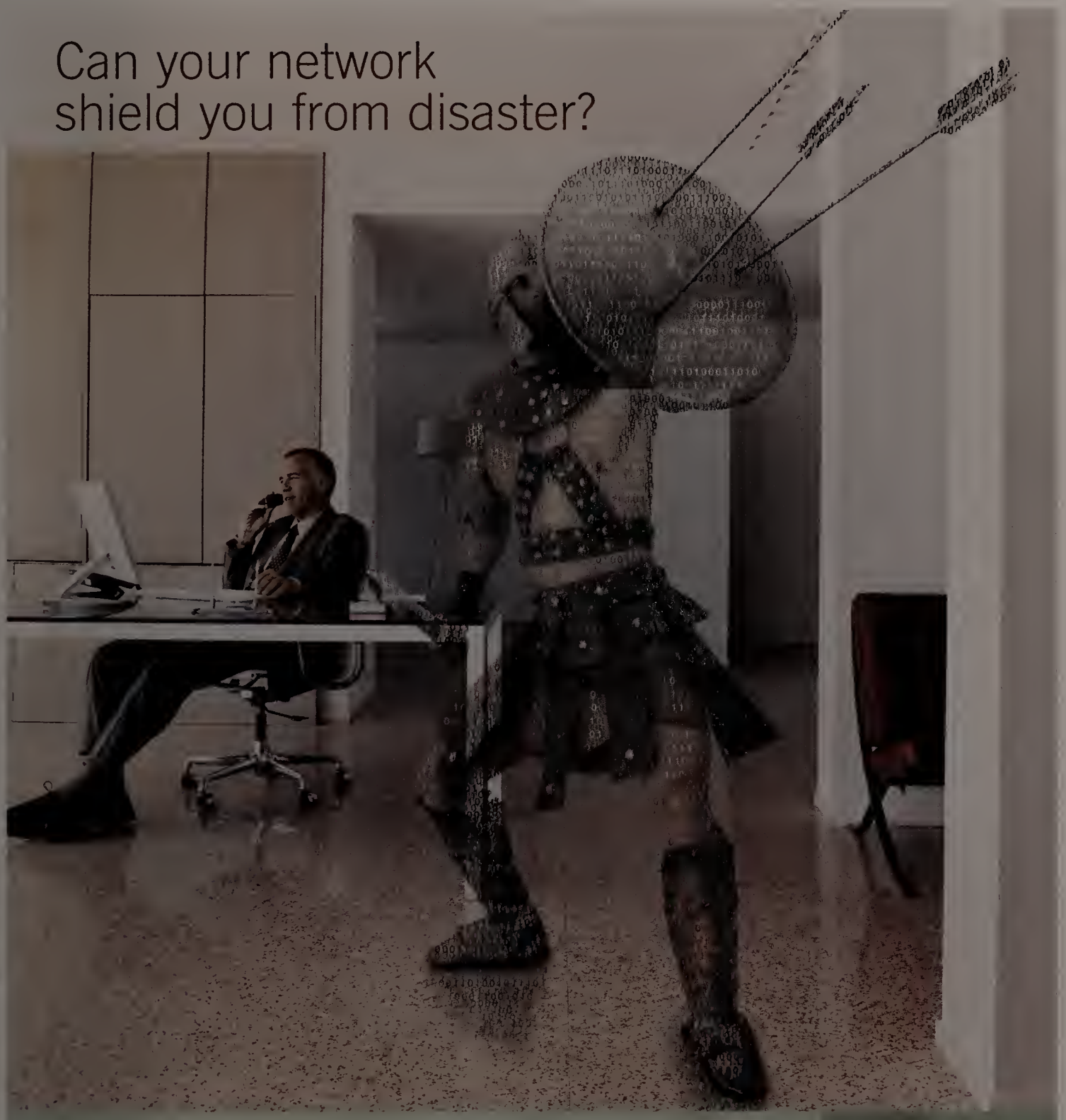
"Business continuity and disaster recovery preparedness is all about figuring out what your deficiencies are and how you're going to fix them. It's not about how to get an A+ on paper," says Joe Torres, disaster recovery coordinator for Miami-Dade County. He points out that it's not the people he's testing during a disaster recovery exercise but the plan — "because you can't depend on the people being available."

"You're going to give them a book with instructions, and they need to be able to follow that," Torres says. One step Miami-Dade has taken in that direction is to consider call-tree software that could help employees contact key managers in an emergency.

Walter Hatten, senior vice president and technical services manager at Hancock Bank in Gulfport, Miss., has focused on consolidating his server farm and creating a redundant communications network for an area of the country that gets hit or brushed by a hurricane every three and a half years. The 100-branch bank, with headquarters on the Gulf of Mexico, is consoli-

Rising From D

Can your network shield you from disaster?



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dating 500 servers onto a Linux-based mainframe to reduce recovery time in a disaster.

"Just the sheer magnitude of rebuilding 500 servers puts us at risk for not being able to do it quickly enough," says Hatten, who chose Linux for its open standard and scalability. He says the mainframe will offer greater speed for recovery of data, reducing the amount of time it would take to restore data from days to hours.

Headquarters Lockouts

Maria Herrera is chief technology officer at Patton Boggs LLP, a Washington-based law firm with 400 attorneys specializing in international trade law. Because of the firm's proximity to the U.S. Capitol building, one constant concern is a building lockout brought on by terrorist threats, she says.

Herrera has set up duplicate operating environments in several remote offices and has contracted with two disaster recovery vendors: SunGard Data Systems Inc. in Wayne, Pa., for server recovery and workstation services, and AmeriVault Corp. in Waltham, Mass., for data backup.

In January, AmeriVault installed its CentralControl interface on desktops and an agent on each of Patton Boggs' servers. After completing an initial full backup of all data, AmeriVault now performs daily incremental backups of deltas, or changes, to disaster recovery centers in Waltham and Philadelphia.

In an emergency, data restores can be performed remotely, even from home, by administrators using a point-and-click function on a Web portal provided by AmeriVault, or data can be shipped on tape for large restores.

"Every month or couple of months, we access several documents and download them from AmeriVault to test the system," says Herrera. During full testing, she spends 16 hours recovering full data sets. "We're able to restore everything within the firm in about 10 hours," she says.

Herrera also suggests involving all IT personnel in the disaster recovery testing process, because in an emergency, you never know who might be available to help. She has trained employees in all four satellite offices around the country on disaster recovery procedures.

SunGard also has several facilities where IT personnel and lawyers can meet to continue work in the event of a headquarters lockout, Herrera says.

Officials at Mizuho Capital Markets Corp., a subsidiary of the world's second-largest financial services firm, Mizuho Financial Group Inc. in Tokyo, say that some of the most effective disaster recovery tools are the simplest.

For example, when a protest kept employees from entering the firm's Times Square headquarters late last year, IT managers passed out laminated business cards with a directory of managers' home phone numbers.

Doug Lilly, a senior telecommunications technologist at the Delaware Department of Technology and Information, says his agency has three data centers that support about 20,000 state employees. The department uses EMC Corp.'s Symmetrix Remote Data Facility to replicate data among the data centers. It also uses backup software from Oceanport, N.J.-based CommVault Systems Inc. as a central management tool.

"If this site were bombed . . . we'd have servers running to replace them, but we'd still have to restore data from tapes," Lilly says. "CommVault's software transfers between 60GB and 65GB of data per hour. It would be a few hours before we got people up online."

Lilly's IT team also keeps a copy of disaster recovery procedures at home. "Team leaders notify everyone, and we carry cell phones and BlackBerries that are on redundant networks," he says. "It's a pretty unified messaging platform . . . that ties data, voice, fax and video into one application. They can get hold of us anytime, anywhere."

Massive Power Outages

Edward Koplin, an engineer at Jack Dale Associates PC, an engineering firm in Baltimore, says a lack of disaster testing is the No. 1 cause of data center failures during a blackout. Koplin suggests that companies test their diesel generators often and at full load for as long as they're expected to be in use during a blackout.

The Uptime Institute's Brill adds to that advice: Always prepare for a blackout with at least two more generators than needed, and test them by literally pulling the plug. "I would test it for as long as I expected it to work under load. I'd do that at least every two or three years. And I would run it in the summer," Brill says.

Jim Rittas, a security administrator responsible for networking at Mizuho, says the company can now perform full data restores after blackouts or other disasters in an hour instead of two days because it now mirrors its data to a New Jersey office that's also an active work site. "The other thing we did was diversify our Internet connections. Internet connections now flow in and out of New York and New Jersey, where we only had one in New York before," Rittas says.

Needham, Mass.-based research firm TowerGroup recommends turning parts of disaster recovery or business continuity data centers into profit centers by going with an active/active operations model. Traditionally, companies have set up an active primary data center and unmanned backup site. An active/active model eliminates the need for IT staffers to relocate in an disaster because they're permanently stationed at the disaster recovery site, which is also used to run active business applications.

Integrating disaster recovery IT assets and personnel into operations budgets across geographically dispersed data centers will also help blur the line between disaster recovery and operations spending.

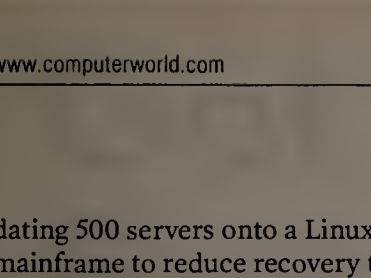
It's best to have a complete copy of your data in an alternate site at all times, "not just some of it," says Wayne Schletter, associate director of global technology at Mizuho Capital Markets. "You don't want to be piecing things together after something happens. You just want to be ready to go." **45444**

Tips for Coping With Disasters

- Choose vendors that are proactive and don't require prodding to upgrade or test your disaster recovery plan.
- Don't test people; test your disaster recovery plan. People come and go. Make the plan easy to follow and use.
- After a disaster, don't count on employees being willing to fly to alternate work sites.
- Distribute key disaster recovery personnel across many geographic locations.
- Turn disaster recovery data centers into active work sites.
- Disaster recovery plans are living, breathing things. Keep them up to date and make sure employees are well versed in them.
- Seek vendors with plenty of longevity and geographically dispersed offices for disaster recovery.
- Make sure portals to your outsourcing vendor are dedicated or have enough bandwidth to handle multiple companies seeking fast restores.
- Make sure that not just your vendor but *you* understand how to back up and restore systems.
- Verify that backup tapes can restore data.
- Train and involve all IT personnel in the disaster recovery process.

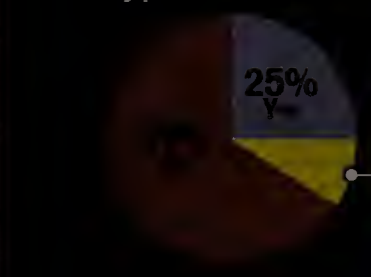
Survey Snapshots

Does your organization have a disaster recovery plan?



BASE: Online survey of 283 IT professionals

Was your company's disaster recovery plan exercised in 2003?



BASE: Online survey of 227 IT professionals at organizations that have a disaster recovery plan

SOURCE: COMPUTERWORLD, FRAMINGHAM, MASS., FEBRUARY 2004

isaster

LESSONS FROM THE BLACKOUT

Even where recovery efforts went swimmingly, experts and IT executives found lessons to learn from the Northeast's blackout of 2003:

QuickLink 42257
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Classic Mistakes

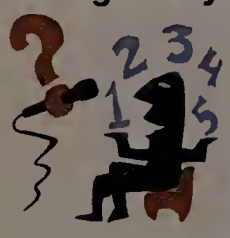
Here are the five most common errors that companies make when preparing for disaster. By Steve Ulfelder

DISASTER RECOVERY is an unpleasant task. And that makes it a low-priority project in almost all companies, says Scott Lundstrom, an analyst at AMR Research Inc.

"There are no users screaming over business continuity," he says. "So given the firefighting nature of most IT organizations, [disaster recovery] never gets the resources it deserves."

Because disaster recovery takes a back seat to other IT projects, mistakes are bound to happen. We asked IT managers and other experts what's most likely to be forgotten or overlooked in disaster recovery planning. Here are the five classics.

MISTAKE 1: Failing to do your homework.



IT groups often neglect to ask users and line-of-business executives which applications they need most. This leads to faulty assumptions about disaster recovery priorities. In particular, IT tends to assume that heavy-duty enterprise applications should be restored first.

In reality, the most needed applications may be much more basic — e-mail and scheduling tools such as Microsoft Outlook, for example. How do you find out? Ask the users. "The business itself needs a plan in case operations are disrupted," says Elbert Lane, a lead software developer at San Francisco-based retailer Gap Inc. and a 20-year veteran of disaster planning at several companies. "They'll need procedures for doing paperwork, etc., so the question is, How would they recover? That's not just an IT issue, but a business [issue]."

THE LESSON: IT constantly hears the term *mission-critical* used in reference to CRM and ERP software. But to find out which applications the users really want restored first, simply ask them.

MISTAKE 2: Thinking it's purely an IT issue.

In a crisis, the performance of the IT staff may be the least of a company's worries. "A common assumption is that disaster recovery and business continuity are synonymous," says Don O'Connor, CIO at Southern California Water Co., a utility based in San Dimas. "They're not."

Even underprepared IT organizations have done some thinking about what to do when disaster strikes. But can the same be said of other groups? "In my experience, IT can respond relatively quickly," O'Connor says. "The part that's missing is the users."

THE LESSON: Company officers need to understand that rebooting systems and recovering data is just one part of the problem. Disaster recovery plans need to include line-of-business managers and end users who, in a crisis, will run the business in the midst of adversity. "Too often, continuity is something we task IT with," Lundstrom says. "It's really a business issue."

MISTAKE 3: Fighting the last war.

If, as the saying goes, generals are always preparing to fight the last war, too many enterprises spend their disaster recovery budgets and energy preparing for the most recent catastrophic event. While understandable, this is self-defeating; disasters are, by their nature, well-nigh impossible to predict.

Recent history offers a compelling example. The Sept. 11, 2001, terrorist attacks on the World Trade Center devastated many New York-based financial services firms. Many wished they'd had nearby backup facilities, and they proceeded to build such facilities at great expense across the river in Jersey City, N.J. But Manhattan's next major business-continuity crisis — the August 2003 blackout — took out electricity in Jersey City as well.

THE LESSON: While it's sensible to consider certain broad crisis categories (terrorist or hacker attacks, earthquakes, fires and so on), don't think you can anticipate future events. Plan not for specific crises, but rather for their effects. The Gap had servers located in the World Trade Center on Sept. 11, Lane says, but "we had set them up to failover to backups located in the South."

MISTAKE 4: Overlooking the people.

This is another lesson from Sept. 11: Top-notch backup equipment helps only if somebody is able to use it. "Some businesses had recovery data centers in Lower Manhattan," says Carl Claunch, an analyst at Gartner Inc. However, he says, immediately following the collapse of the World Trade Center towers, "police wouldn't let people in. The equipment was fine, but it just sat there unused." This can happen if a building is quarantined, an elevator stuck or a major road closed.

The other part of this gotcha is the expertise of those who finally do access backup equipment. Too many companies — especially those that fudge their recovery exercises — count on IT heroics to pull them out of a crisis. However, as the Gap's Lane says, "you never know if key personnel will be back."

THE LESSON: This is where strong documentation comes in. "We fashion our document so anyone in the business should be able to restart an application," Lane says. "You should be able to have somebody from the mail room start everything up."

MISTAKE 5: Conducting phony-baloney practice drills.

"Sure, companies do testing. But because full tests are so resource-intensive, they're scheduled in advance," Claunch says. The result: IT workers, driven by the natural desire to ace a test, cheat. "They prepare. They collect tools, review procedures," he says. "Then, when a real disaster hits, blooey."

This is a sticky problem for IT organizations stretched thin even before disaster planning is factored into their workloads. Lane says practices at the Gap are planned in advance. "We are a retailer; we need to support our stores" around the clock, he says.

THE LESSON: There is no easy answer here. Everybody concedes that surprise disaster tests are more effective, but performing one in a round-the-clock, e-business environment is a massive undertaking. Claunch suggests surprise tests of one IT subgroup at a time, leaving the rest of the staff to run operations. And some businesses use auditors to make sure IT workers don't lean on prepared information. **45392**

Ulfelder is a Computerworld *contributing writer in Southboro, Mass. Contact him at sulfelder@charter.net.*

Sweat the Small Stuff

When a crisis hits, IT staffers seeking to maintain or restore operations are often tripped up by the most basic items. Disaster planning analysts and experts say you need to think about things like the following:

Who has keys or access cards for the building? How do you get in if the electrical grid is shut down? What local public-safety officials (police, fire or town officials) can you turn to for help?

In a crisis, IT staffers may need to contact corporate officers whose names they don't even know. An emergency "telephone tree" that includes mobile numbers is a must.

At home, we've all felt stupid when a blackout hit and our flashlight batteries were dead. The same goes for the workplace – after all, backup generators fail, too.

Security is good, but in an emergency, even low-level staffers may need extraordinary systems access. Organizations need to put a crisis-only override in place.

AN OUNCE OF PREVENTION

A California law that requires hospitals in the state to be earthquake-proof gives companies an opportunity to revamp and modernize their IT infrastructures:

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ILLUSTRATIONS BY WENDY WAHMAN

Got Questions About Business Intelligence?

Computerworld's IT Executive Summit Has the Answers

If you're an IT executive* in an end-user organization, apply to attend one of Computerworld's upcoming complimentary one-day summits on Business Intelligence.

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7:45am to 8:15am	Registration and Networking Breakfast
8:15am to 8:45am	**Off to See the Data Wizard: Reporting from the Yellow Brick Road** Maryfran Johnson, Editor in Chief, Computerworld
8:45am to 9:15am	**User Case Study**
9:15am to 9:45am	**Business Intelligence in Action at NASD** Martin Colburn, EVP and CTO, National Association of Securities Dealers
9:45am to 10:15am	Refreshment and Networking Break
10:15am to 10:45am	**Evolving the Enterprise: Leveraging Information for Competitive Gain** Jim Davis, SVP, SAS
10:45am to 11:15am	**Industry Analyst Perspective**
11:15am to noon	**Panel Discussion:** **Creating the Transparent Organization: New Roles for Business Intelligence with Corporate Customers, Suppliers and Government Regulators** Moderator: Julia King, National Correspondent, Computerworld Panelists: Dennis Callahan, EVP & CIO, Guardian Life Insurance Maureen Glynn, Director, IT Risk & Compliance Management, Intel
Noon	Program Concludes

Chicago • June 9, 2004

Sheraton Chicago Hotel & Towers • 301 East North Water Street

7:45am to 8:15am	Registration and Networking Breakfast
8:15am to 8:45am	**Off to See the Data Wizard: Reporting from the Yellow Brick Road** Maryfran Johnson, Editor in Chief, Computerworld
8:45am to 9:15am	**User Case Study**
9:15am to 9:45am	**Business Intelligence in Action at NASD** Martin Colburn, EVP and CTO, National Association of Securities Dealers
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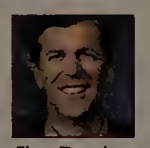
Noon	Program Concludes

Selected speakers include:

Maryfran Johnson
Editor in Chief
Computerworld

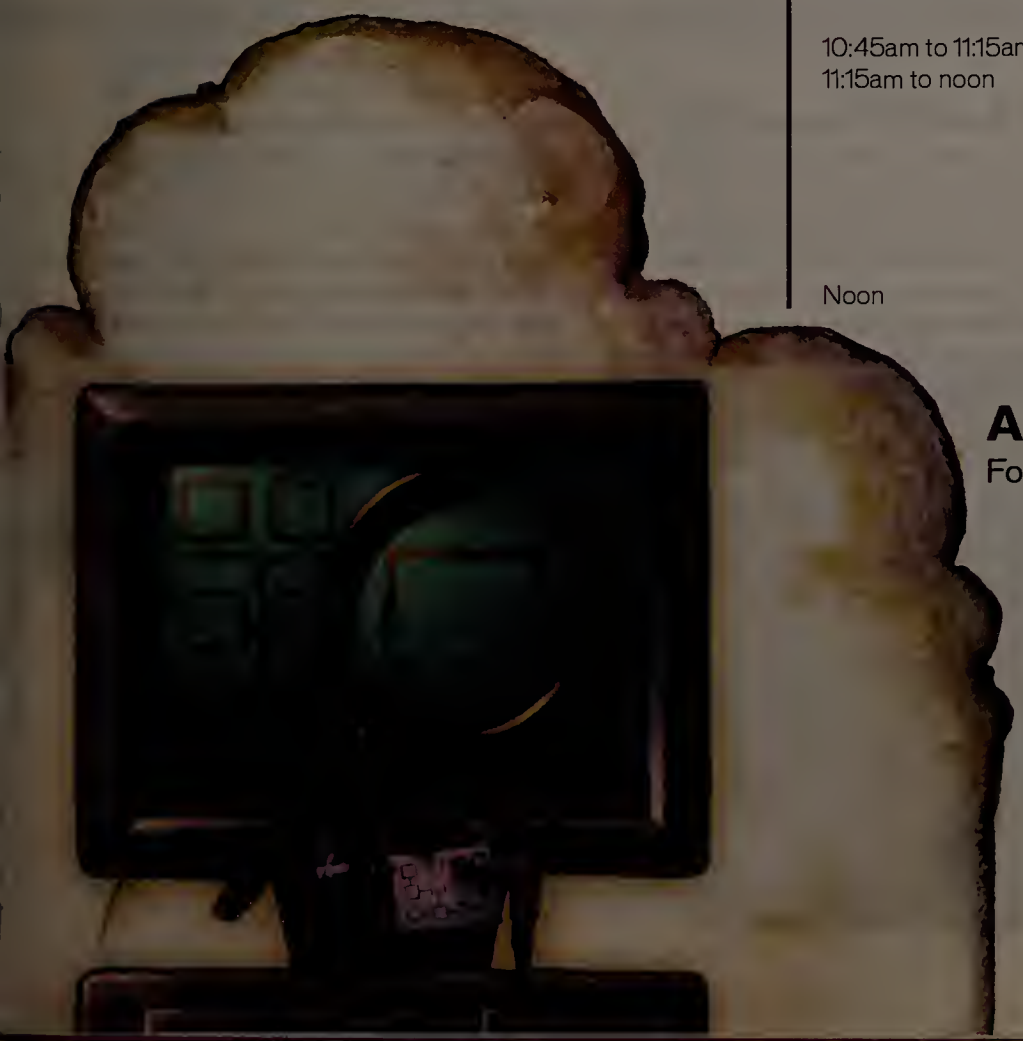
Martin Colburn
EVP and CTO
National Association of Securities Dealers



Jim Davis
SVP and Chief Marketing Officer
SAS

William Farrow
CIO and EVP
Chicago Board of Trade

Julia King
National Correspondent
Computerworld



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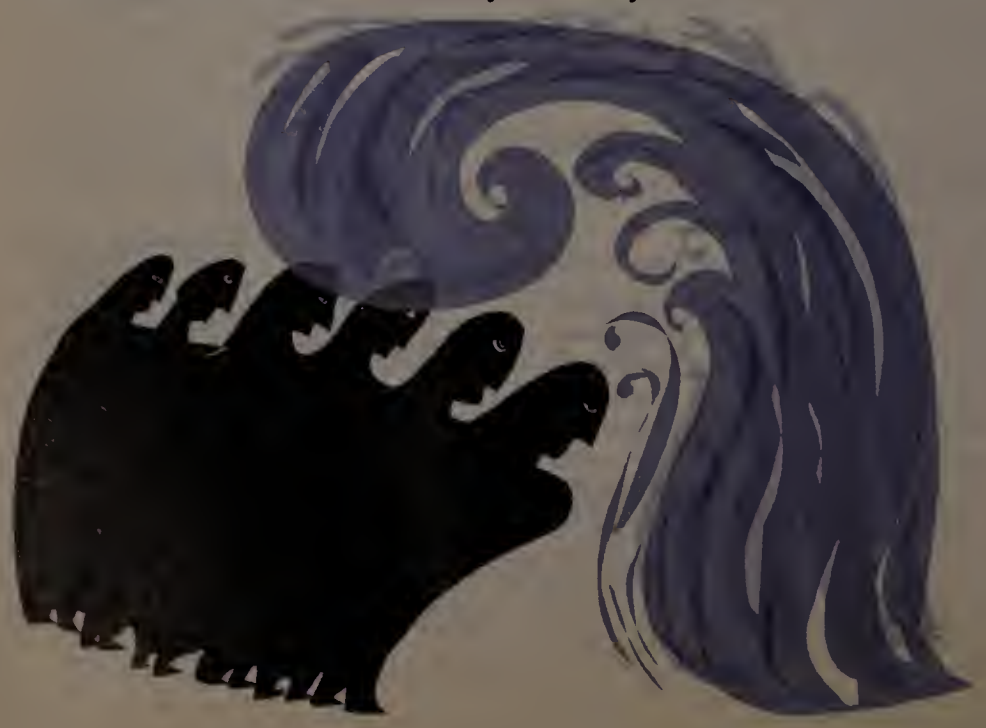
Get in Sync With Suppliers

A disaster for your trading partners could mean a disaster for you. By Alan R. Earls



WENDY WAHMAN

BUSINESS-TO-BUSINESS dependencies create the opportunity for great benefits. But if a disaster strikes any company in the supply chain, the risks to all are equally great.

At Ryder System Inc., customers routinely vet their supply chain partners to ensure that they meet minimum standards for robustness and security. "If they can't make the cut, we won't do business with them," says Chuck Lounsbury, senior vice president of sales and marketing at the Miami-based transportation, logistics and supply chain management services company. "We don't want to jeopardize the capabilities of all the other companies involved."

"It is a matter of working together," adds Richard Arns, executive director of the Chicago Research & Planning Group, which spun off a post-Sept. 11 effort called the Security Board. A key lesson from the terrorist attacks, he says, is that organizations should enlarge their circle of preparedness.

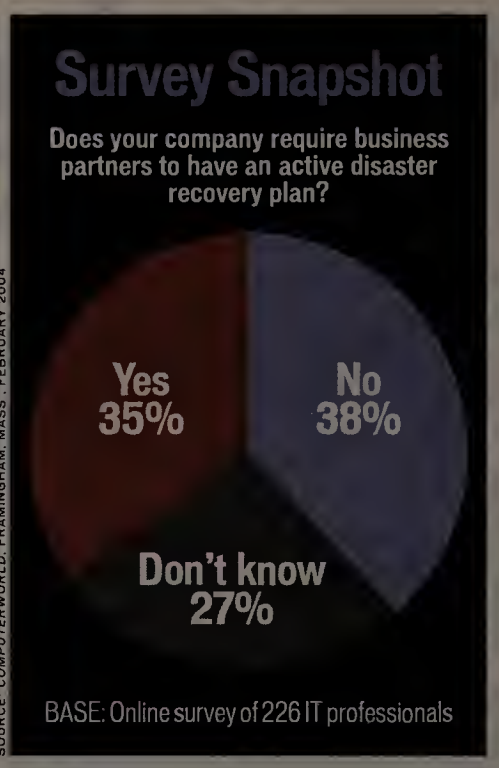
But that message may not be getting through. An American Management Association survey conducted last year showed a sharp increase in the number of companies with crisis plans, drills or simulations. Yet only about a third of those companies reported having ongoing and backup emergency communications plans with their suppliers.

To make their operations truly disaster-resistant, IT managers should determine if business partners are ready to handle a disaster, experts say. Then they must work closely with those suppliers to achieve parity in their disaster recovery efforts and get their recovery times in sync. Here are some more tips:

TIP: Tighten SLA Language

A good starting point, says Roberta J. Witty, an analyst at Gartner Inc., is the language of the service-level agreement. SLAs are normally applied to IT providers but also offer a framework for talking about critical IT support from partners. But that's only the beginning. Witty says IT managers should conduct an internal inventory assessment to determine which points outside the enterprise are critical to a company's functions. They should then extend the process to suppliers.

"Have a conversation with them about what the risks are within their own supply chain," she says. "You are outsourcing functions; maybe they are, too." It may be worthwhile to line up backup suppliers for your outsourced services so you have more redundancy — and encourage partners to do the same, says Witty. In any case, at each step in the supply chain — including with your internal operations, your outsourcers, your suppliers and their outsourcers and suppliers — there needs to be a credible recovery plan, she says, "or their disaster will become yours."



SOURCE: COMPUTERWORLD, FRAMINGHAM, MASS., FEBRUARY 2004

And nothing beats testing. Whenever possible, it's a good idea to include partners in your own tests and vice versa, Witty says.

TIP: Test ERP Connections

Jim Grogan, vice president of alliances at SunGard Data Systems Inc. in Wayne, Pa., says he's seeing more clients embrace the ideal of the real-time enterprise. And enterprise applications, such as ERP software, that support that vision almost invariably have links outside the organization.

"We encourage [clients] to do an information-availability study of their trading partners and suppliers, even if they have to foot the bill," he says.

Most worrisome to Grogan is the fact that many organizations have entrusted key business processes to software — to the point that unaided humans would have difficulty handling those functions on their own.

"Even a few years ago, you could count on someone being able to get on the phone and fix things," he says. Likewise, Grogan notes, phone communication used to be planners' first priority. But not anymore. "Now, everyone tells us that the first thing they need to get back in business with partners is e-mail," he says.

At a granular level, Grogan says SunGard always looks for potential single points of failure within a supply chain, such as a server, switch or cable upon which many operations depend. Companies also need to coordinate their recovery plans because for many applications, particularly ERP, "systems are connected in real time with others that may have different recovery times or different recovery points, which can complicate efforts to get back to business," he says.

TIP: Secure Partner Communications

It's also important to look at the security of business partner communications because glitches in that area could precipitate a disaster. Nick Brigman, vice president of strategy at RedSiren Inc., an IT security management firm in Pittsburgh, says it's important to understand whether you're connected to partners via a private network, a virtual private network or the Internet.

One of the best ways to enhance the security of that communication is to assign "least-privileged" accounts to partners that define the nature and even the volume of expected traffic, says Brigman. This not only eliminates potentially spurious communications, but it also provides a basis for detecting abnormal activities, he says.

Finally, John Jackson, vice president of IBM Business Continuity and Recovery Services, says business-to-business dependencies make it critical for companies to "get together and do a business impact analysis to determine how their individual recovery times could be made to mesh."

"In some cases, companies find that they are doing far more than their partners, and their partners either have to catch up, or they need to consider spending less, since they won't really get much benefit," he says.

Communication infrastructure is the key, Jackson adds. Partners, especially smaller ones, may not have the knowledge needed to ensure robust and resilient performance. And they may just need help to get there. **45533**

Earls is a freelance writer in Franklin, Mass. Contact him at alan@alanearls.com.

KNOWING WHOM TO TRUST

Don Houser, a security architect at Nationwide Mutual Insurance, developed a technology that lets business partners set standards for working together.

QuickLink 45531
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A Dose Of Reality

Nothing gives you a warts-and-all experience like testing your disaster recovery plan in the real world.

By Robert L. Scheier

WENDY WAHMAN

IF YOU WANT TO REALLY TEST your disaster recovery plan, you have to get out from behind your desk and step out into the real world. Because in the real world, the backup site lost your tapes, your emergency phone numbers are out of date, and you forgot to order Chinese food for the folks working around the clock at your off-site data center.

"Unless it's tested, it's just a document," says Joyce Repsher, product manager for business continuity services at Electronic Data Systems Corp., an IT outsourcing and services provider in Plano, Texas.

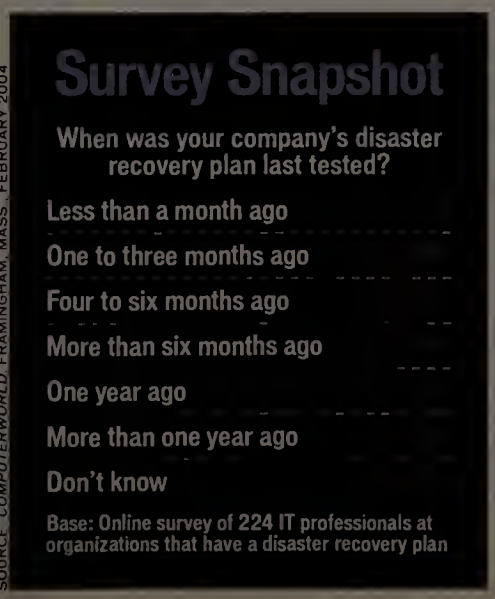
How often should you test? Several experts suggest real-world testing of an organization's most critical systems at least once a year. In the wake of Sept. 11 and with new regulations holding executives responsible for keeping corporate data secure, organizations are doing more testing than they did 10 years ago, says Repsher. An exclusive *Computerworld* online survey of 224 IT managers supports that assertion, indicating that 71% had tested their disaster recovery plans in the past year (for more survey results, see page 35).

Desktop disaster recovery testing involves going through a checklist of who should do what in case of a disaster. Such walk-throughs are a necessary first step and can help you catch changes such as a new version of an application that will trigger other changes in the plan. They can also identify the most important applications, says Repsher, "before moving to the expense of a more realistic recovery test."

Companies do desktop tests at different intervals. Fluor Fernald Inc., which is handling the cleanup of a government nuclear site in Fernald, Ohio, does both desktop and physical tests of its disaster response plans every three years "or anytime there's a significant change in our hardware configuration," says Jan Arnett, manager of systems and administration at the division of engineering giant Fluor Corp.

Survey Snapshot

When was your company's disaster recovery plan last tested?



Base: Online survey of 224 IT professionals at organizations that have a disaster recovery plan

SOURCE: COMPUTERWORLD, FRAMINGHAM, MASS., FEBRUARY 2004

What's Critical?

Determining which systems need a live test is also critical. Fluor Fernald schedules live tests on only about 25 of its most critical applications and then tests only one server running a representative sample of these applications, says Arnett. "We feel if we can bring one server up, we can bring 10 servers up," he says, especially since the company uses standard Intel-based servers and networking equipment.

The most common form of live testing is parallel testing, says Todd Pekats, national director of storage alliances at IT services provider CompuCom Systems Inc. in Dallas. Parallel testing recovers a separate set of critical applications at a disaster recovery site without interrupting the flow of regular business. Costly and rarely done, the most realistic test is a full switch of critical systems during working hours to standby equipment, which Pekats says is appropriate only for the most critical applications.

Businesses that are growing or changing quickly should test their disaster recovery plans more often, says Al Decker, executive director of security and privacy services at EDS. He cites one firm that has grown eightfold since 1999, when its disaster plan called for the recovery of critical systems in 24 hours. Today, just mounting the tapes required for those systems would take four to 10 days, he says.

Deciding how realistic to make the test "is a balance between the amount of protection you want" and the cost in money, staff time and disruption, says Repsher. As an organization's disaster recovery program matures, the tests of its recovery plans should become more challenging, adds Dan Bailey, senior manager at risk consulting firm Protiviti Inc. in Dallas. While the more realistic exercises provide more lessons about what needs improvement, he says, an organization just starting out with a rudimentary plan probably can't handle a very challenging drill.

Never assume that everything will go as planned. That includes anything from having enough food or desks at a recovery site to having up-to-date contact numbers. Communications problems are common, but they're easily prevented by having every staff member place a test call to everyone on their contact list, says Kevin Chenoweth, a disaster recovery administrator at Vanderbilt University Medical Center in Nashville.

Also, never assume that the data on your backup tapes is current or that your recovery hardware can handle your production databases. Arnett found subtle differences in the drivers and network configuration cards on his replacement servers that forced him to load an older version of his Oracle database software to recover his data.

Chenoweth or his staffers review each test with the affected business units and develop specific plans (with timelines) for fixing problems.

Finally, Chenoweth says, thank everyone for their help, especially if the test kept them away from home. "If you've got a good relationship, they're more likely to be responsive" to the firm's disaster recovery needs, he says. **45395**

Testing Tip: Ditch the Script

A disaster drill isn't much good if everyone knows what's coming. But too many organizations script disaster tests weeks ahead of time, ship special backup files to an off-site recovery center and even make hotel reservations for the recovery staff, says John Jackson, vice president of business resilience and continuity services at IBM in Chicago.

That eliminates messy but all-too-likely problems such as losing backup tapes in transit or discovering that a convention has booked all the hotel rooms in town. He advises telling the recovery staff, "We just had a disaster. . . . You can't take anything out of the building. . . . You have to rely on the disaster recovery plan and what's in the off-site recovery center."

That makes the test more "exciting," he acknowledges, but it also makes it a lot more useful.

– Robert L. Scheier

Scheier is a Computerworld *contributing writer in Boylston, Mass. He can be reached at rscheier@charter.net.*

The Almanac

An eclectic collection of research and resources. By Mitch Betts

GETTY IMAGES

Restoring Data Tapes After the Coffee Spill

As your store's night manager is driving home with the backup tapes, he has to slam on the brakes. Hot coffee spills onto the tapes, turning them into a wet, wrinkled mess. Can you still recover the data? The folks at Exabyte Corp. say that their VXA drives can read VXA-formatted tapes that have been subjected to boiling water, coffee, ice or volcanic ash.

The trick is that Exabyte's VXA drives read the data as tiny packets on the magnetic tape instead of using the conventional method of reading the skinny tracks that run along the length of the tape from beginning to end [QuickLink 40422]. The VXA drives collect the addressable packets and reassemble them with an error-checking procedure — it's similar to the way the packet-switched Internet works, says Kiernan Maloney, an Exabyte general manager in Boulder, Colo. So if the drive misreads a packet — perhaps because of a wrinkle or a spot of latte — it goes back to look for the missing packet, Maloney says.

Of course, only a backup tape generated by a VXA drive can be read by a VXA drive.

Y2k a Mixed Bag for Disaster Recovery Pros

The year 2000 date rollover crisis has had both positive and negative effects on the disaster recovery field, longtime observers say. On the positive side, it drew a lot of attention to establishing contingency plans and had companies talking to their vendors and suppliers about disaster scenarios, says Dan Bailey, senior manager at Protiviti Inc., a risk consulting company in Dallas, and a member of the professional groups DRI International and the Association of Contingency Planners.

But Y2k turned out to be a nonevent because of the efforts that went into fixing systems. But the success of those efforts created credibility problems for disaster recovery specialists and led to complacency among senior executives, Bailey says.

Chief financial officers who OK'd $20 million to upgrade systems for Y2k — only to have nothing happen — may wonder whether that was money well spent, says Tim DeLisle, managing principal at Corigelan LLC, a disaster recovery consultancy in Chicago. If IT asks for another $30 million to upgrade disaster recovery capabilities, those executives are going to be skeptical, so "you need to build a business case for risk management," DeLisle says.

The other post-Y2k problem is that some companies figure they addressed all their disaster recovery issues in the Y2k plan that's sitting on the shelf. But many of their systems and operations have changed since 1999, so those plans are virtually worthless now unless they've been updated, DeLisle says.

Three Tips

From: Dorian Cougias, CEO of Network Frontiers LLC in San Francisco and author of *The Backup Book: Disaster Recovery From Desktop to Data Center* (Schaser-Vartan Books, 2003).

TIP NO. 1: Figure out how to recover from "stupid-user tricks," such as the user who accidentally drags an empty file directory on top of a very important file directory and wipes it out, or the janitor who disregards the "Don't touch this switch" sign. Ask your help desk staffers to list the problems they've dealt with in the past 12 months.

TIP NO. 2: Have a disaster recovery plan for your e-mail system, the most-used system on the network. Consider a product like the Emergency Messaging System from MessageOne Inc. in Austin.

TIP NO. 3: Make sure each employee's daily, weekly or monthly work procedures include disaster recovery practices, just like a sailor's duties include checking the boat's rigging and pumps before every excursion.

Pop Quiz

Could you locate your disaster recovery plan in the next five minutes?

Do you know what you're supposed to do under the plan?

BASE: Online survey of 227 IT professionals at organizations that have a disaster recovery plan

SOURCE: COMPUTERWORLD, FRAMINGHAM, MASS., FEBRUARY 2004

Patent Watch

■ A data storage system that provides real-time data backup when a hazard sensor detects an imminent disaster. The system alters the backup process to minimize the amount of lost data. *— U.S. Patent No. 6,684,306, issued Jan. 27, 2004.* **Inventors: Teruo Nagasawa, Takahisa Kimura and Takeshi Koide, for Hitachi Ltd. in Tokyo.**

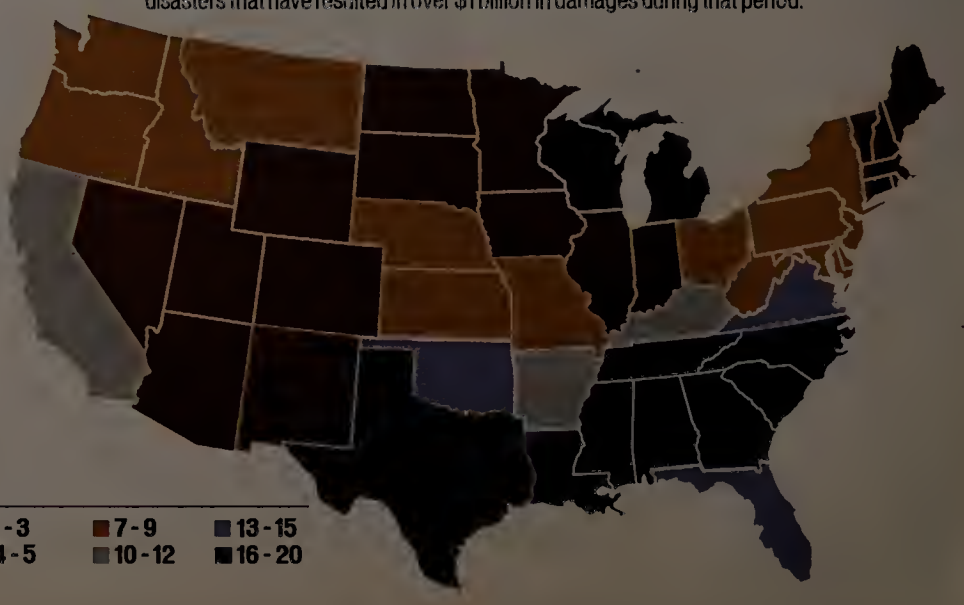
■ A targeted early-warning system for disasters. Local residents are warned of a fast-moving disaster via a code and brief text message sent to the caller ID screen of their telephones. *— U.S. Patent No. 6,594,345, issued July 15, 2003.* **Inventor: R. Keith Vinson, for BellSouth Corp.**

ONLINE CHECKLIST

The Federal Emergency Management Agency has a basic checklist for business recovery from disasters on its Web site: **www.fema.gov/ofm/bc**

Billion-Dollar Weather Disasters

From 1980 to 2003, states in the South had more billion-dollar weather disasters – such as hurricanes and floods – than other states in the continental U.S. This map shows the frequency per state of weather disasters that have resulted in over $1 billion in damages during that period.

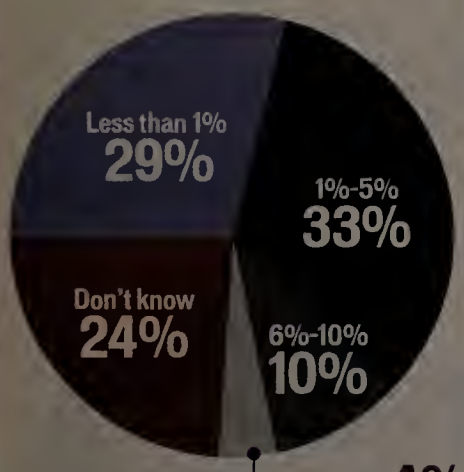


SOURCE: NATIONAL CLIMATIC DATA CENTER, ASHEVILLE, N.C., 2004

SNAPSHOTS

Disaster Budgets

What percentage of your organization's IT budget is earmarked for disaster recovery?



BASE: Online survey of 281 IT professionals

SOURCE: *COMPUTERWORLD*, FRAMINGHAM, MASS., FEBRUARY 2004

Plan Updates

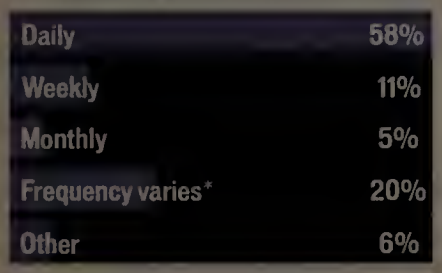
How recently has your disaster recovery plan been revised?

BASE: Online survey of 222 IT professionals at organizations that have a disaster recovery plan

SOURCE: *COMPUTERWORLD*, FRAMINGHAM, MASS., FEBRUARY 2004

Remote Backups

How often is remote-office data backed up in your organization?



*Depending on the remote users

BASE: Online survey of 281 IT professionals

SOURCE: *COMPUTERWORLD*, FRAMINGHAM, MASS., FEBRUARY 2004

MARK HALL

Listen to Mom

AMONG THE NUGGETS OF WISDOM that fell from my mom's lips, my favorite is: "Expect the worst. You'll never be disappointed."

If you're planning to move a portion of your IT operations to India, your disaster recovery plan had better involve a risk management assessment loaded with worst-case scenarios. Otherwise, you might not just be disappointed. You might be fired.

Like the U.S., India is prone to natural disasters. There are floods. Winds and cyclones cause destruction every year. Earthquakes happen.

But unlike the U.S., India benefits from disaster recovery programs sponsored by the United Nations, presumably because the country's infrastructure is more fragile than those of other nations or because its ability to respond is less robust. Even the U.S., with its notoriously parsimonious aid to developing nations, includes a special funding program for disaster recovery in India. Perhaps as India increases its wealth by importing IT jobs from this country, it will reciprocate in kind one day.

Today, however, it is the recipient of outside disaster recovery help, a fact to keep in mind when you consider what appear to be low-cost offshore IT services.

is a *Computerworld* editor at large. Contact him at mark_hall@computerworld.com.

All this isn't to say that the buildings that house data centers in Bangalore are at more risk of being hit by, say, an earthquake than those perched along the San Andreas fault in Silicon Valley. There's far less risk of an earthquake in India, in fact. But just in case, you'd better make certain that your offshore outsourcer has picked its site and built its building with a nervous eye on the Richter scale. If the outsourcing rep is sanguine and assures you that you needn't worry about such a thing, you'd better worry.

Just like any nation plagued by natural disasters, the U.S. has a mixed record of getting regions up off their knees after Mother Nature has whacked them with hurricanes, floods, tornados and temblors. The Federal Emergency Management Agency has been both praised and damned over the years for its responses to one tragedy or another. That's why smart IT organizations don't even consider the possibility of aid from FEMA when they're designing their companies' disaster recovery plans. They expect to handle any problems themselves.

But at a recent conference where Indian outsourcers were pitching their cost-effective, highly talented IT workers to software vendors, I heard about the close cooperation between the Indian government and outsourcers "in everything from tax incentives to disaster recovery." Hmmm.

You'd be well advised to deal with companies like Sonata Software Ltd., which doesn't lean on the Indian government and backs up the data center in its Bangalore headquarters to a replicant server room hundreds of miles east, across the mountains in the coastal city of Chennai. Others, like Wipro Ltd. and Tata Consultancy Services, offer very similar disaster recovery plans for their customers. Anything less than a fully redundant data center is, as my mom would have drily said, courting disappointment.

If you had to have a disaster recovery plan only for your data in India, the situation would be easy. But you need one for people, too. When disaster strikes (and it will), does your outsourcer have a plan for how soon key employees will be on the job to ensure that your business gets back on track? For example, does the company have a private transportation plan in the event that public transit comes to a standstill? And given that the CIA labels India's communications systems as having "mediocre service," how will your outsourcer deal with outages after a disaster?

Also, I think it's absolutely essential that you hold your Indian outsourcer to disaster recovery standards that are higher than your own. Why? Because you're not there.

A few years ago, I was in the Seattle area shaking hands with Boeing's vice president in charge of computing and communication systems when an earthquake struck. After the first round of ground wobbling stopped, people evacuated the buildings and met at predetermined gathering points. The VP took a single call on his cell phone and chatted with a couple of underlings in accordance with IT's disaster plan. He was calm, even lighthearted. I wondered why.

He said, "Oh, I can see that everything is taken care of. People are OK. Systems are OK."

He could "see" because he was there. That's why your Indian (or your Canadian or Irish) outsourcer needs to be held to a higher standard for disaster recovery — because you won't be able to see for yourself. As my mom also used to say, "Seeing is believing."

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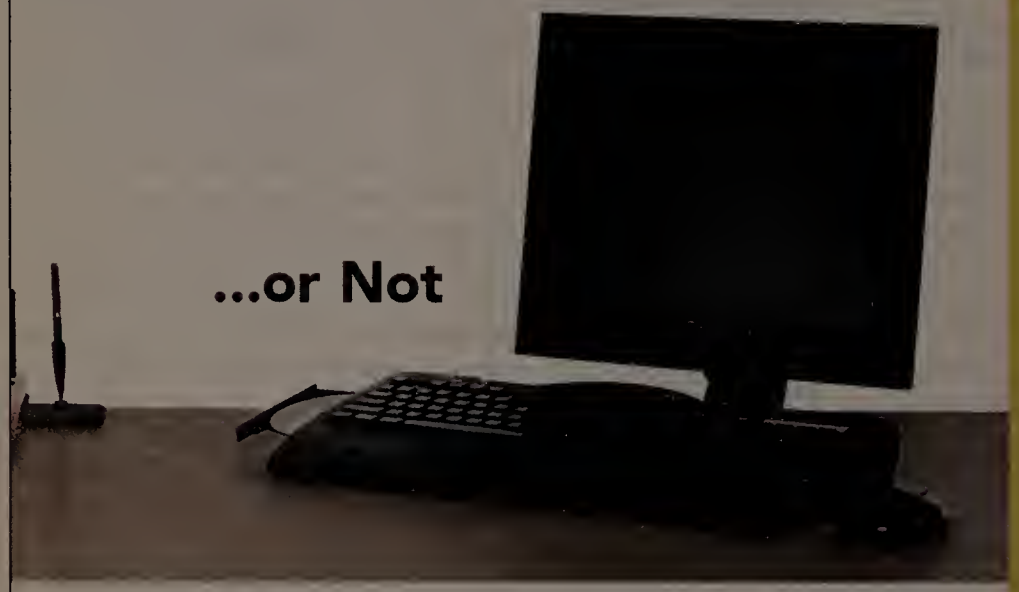

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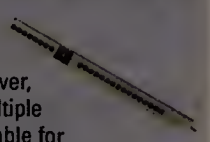

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Advertising Supplement

IT Careers and Diversity

Talk to any senior business leader across the United States, and it takes little time to get around to a major concern – having enough technology workers for the future. It's a hard message to sell after three steady years of layoffs and off-shoring of work in the technology sector. The concern is real, however, as other countries boast of growing numbers of engineering and technology workers – workers who may create the next great breakthrough. Add to the competitive concern the recent uptick in hiring. Companies such as Lockheed Martin have announced plans to hire up to 60,000 new workers in this decade, in large part due to retirements but also to fill the need for advanced technology workers.

The competitive issue is real, too. China graduated more than 300,000 engineers in 2003; India had more than 200,000. Here in the United States, the number of engineering graduates was slightly over 78,000.

It's one of the many reasons that the Information Technology Association of America, the National Action Council for Minorities in Engineering, and the Commission on Professionals in Science and Technology – along with individuals such as Tyrone Taborn, founder of Career Communications, and companies such as IBM -- continue to pound home the message: technology careers need to appeal to a broader range of society; we need more young people of color and who are female to seek tech careers.

Jim Sinocchi, spokesman for IBM's diversity initiative, said this year's Black Family Technology Week (founded by Taborn) and La Familia Technology Week scheduled for October 2004, continue to develop and reach out to more and more communities. The focus is on hands-on experience with technology. "The celebrities of science and technology are telling the story," Sinocchi explained.

This year's Black Family Technology Week in February showed applications of technology in everything from music to movie production. During La Familia Technology Week last fall, Miyeara Major highlighted her use of computer data in identifying a previously undiscovered primate. It didn't hurt that Major could tell her story of transition – from professional football cheerleader to scientist. "There is not a metric on how well we succeed with young people," Sinocchi added. "You can only listen to how many questions they ask and the 'wow' factor."

While appealing to young people involves showing how technology leads to careers and role models, it also means showing them the schools that attract and retain diverse students. While these colleges are heavily weighted by geography and membership in Historically Black Colleges & Universities, another option is emerging – eArmyU. The U.S. Army's distance education programs offers coursework to enlisted soldiers, many of whom are minorities. eArmyU expects to serve 80,000 soldiers over the next five years.

Top 10 Producers of 2001 African American BS Engineers

Institution	# of Grads
North Carolina A&T	166
Georgia Institute of Technology	112
Tennessee State University	97
Florida A&M	93
Morgan State University	88
Southern University	79
Prairie View A&M	73
Tuskegee University	71
North Carolina State-Raleigh	64
University of Michigan	63

Top 10 Producers of 2001 American Indian BS Engineers

Institution	# of Grads
Mass Inst of Technology	11
New Mexico State University	10
Oklahoma State University	10
University of Oklahoma	8
University of New Mexico	7
University of Washington	7
Worcester Poly Institute	7
University of Michigan	6
Tie for 9: Arizona State, Northern Arizona, Old Dominion, San Diego State, University of Alabama-Huntsville, University of Florida, Washington State University	5

Top 10 Producers of 2001 Women BS Engineers

Institution	# of Grads
Georgia Institute of Technology	330
University of Michigan	309
Penn State	249
University of Puerto Rico	222
University of California/Berkeley	218
Texas A&M	215
Purdue University	210
Mass Institute of Technology	207
University of Illinois-Urbana	183
Cornell University	182

Top 10 Producers of 2001 Latino BS Engineers

Institution	# of Grads
University of Puerto Rico	695
Poly Univ of Puerto Rico	311
University of Texas-El Paso	137
Florida International University	118
Texas A&M University	95
University of Texas-Austin	88
University of Florida	86
Cal Poly Pomona	82
Texas A&M-Kingsville	65
New Jersey Institute of Technology	64

Source: National Action Council for Minorities in Engineering

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S/WEngineers to analyze, design, develop financial appls using OOD,C++, VC++, MFC, Visual Source Safe, SQL Server, Rational Rose, CrystalReports, RAIMA, ImageMan, ADO under Windows/UNIX OS; perform system/functional req analysis; document detailed project specs, review conceptual model with users;provide training/ user support for related software; perform debugging/modifications of existing software. Require: M.S. or foreignequiv. in CS/Engg. (any branch) with 1 yr exp In IT. High Salary. F/T posltion. travel involved. Resume to: HR, Autosig Systems, Inc., 201, Price Hills Trail, Sugar Hill, GA 30518.

Software Engineer. Develop & implement web sites for client companies using Vignette & e-business s/w products. Integrate XML technologies & solutions into Java based framework & troubleshoot. Req: Bachelor's in Comp. Sci., Comp. Eng., Electrical Eng., or Business Mgmt. 40hrs/wk. Job/Interview Site: Long Beach, CA. Send resume to UniSAP, Inc. @ 24881 Alicia Pkwy, Laguna Hills, CA 92653.

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Database Analyst. BS in comp. sci or rel. field; exp to incl. DB2 (physical dsgn, implmt., change mgt., backup & recovery, & performance tuning), DB apps.: demonstrate know. of mainframe, distributed, &/or web prog. lang.; demonstrated communication skills, knowl of insurance & fin, svces, & willing to travel & do on-call support. JOB#ACW23172.

IT Systems Analyst. BS in comp. sci or rel. field exp. to incl J2EE app. servers, object oriented & internet technologies, distributed computing & enterprise connectivity, web app. dev., sys. admin. & monitoring tools, formal Iterative dev. proc., & mult. platforms (Unix & Windows); demonstrated communication skills, knowl of insurance & fin. svces, & willing to travel & do on-call support. JOB#ACW23173.

Java Developer. BS in com. sci or rel. field; exp. to incl. Java (servlets & JSPs), struts, XSL/XML & DB2; demonstrated communication skills, knowl of insurance & fin services, & willing to travel & do on-call support. JOB#ACW23171. Resume & cvr ltr to: Principal Financial Group: opportunity@exchange.principal.com; HR Employment, Des Moines, IA 50392-0550. Refer to JOB #'s mentioned above. AA/EEO

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Senior Consultant

Position: (Glen Mills, Pennsylvania and other locations through the U.S.). Responsible for providing clients with professional consulting services in the area of infrastructure requirements including the development, testing and implementation of system software tailored to clients' business needs and requirements. Provide support for the procurement of hardware and software including requirements gathering. Provide technical design and development of data structures and databases to ensure the accessibility, security, and integrity of clients' business data and systems. Responsible for logical and physical data analysis and modeling of c-tree and Oracle and ensuring data architecture standards. Responsible for installation, upgrades, administration, tuning, backup and recovery strategy, implementation and maintenance of c-tree and Oracle databases on Sun Solaris and other operating systems. Engage in the installation, configuration, administration of Sun Solaris, including the configuration of network interfaces, veritas volume manager, root disk, and application of patches. Develop technical specifications and design policies, procedures and workflows and conduct tests, review controls, implement systems and documentation. Responsible for failover design including sun cluster installation and registration of c-tree high availability agents. Coordinate software installation and configuration including sun cluster, MQ series, Veritas volume manager, etc. Coordinate and assist on tuning of Siebel EAI (Enterprise Application Integration) and EIM (Enterprise Integration Manager), develop CICS-Cobol online and batch applications, and oversee and upgrade Oracle applications. The wage offered is $94,340 per year.

The work schedule is Monday-Friday, 9:00 am to 5:00 pm. The minimum requirements are as follows: Bachelor's degree or equivalent in Computer Science, Math, Engineering (any), Information Systems or Business Administration + 3 years of experience in the job offered or 3 years of experience as a Senior Consultant, Consultant or Senior Officer. Employer will regard a foreign degree to be equivalent to a U.S. Bachelor's degree as determined by an accredited credentials evaluation service. Related experience must include at least 1 year of experience in Sun Solaris, c-tree, Oracle Database, MQ Series, Siebel EAI (Enterprise Application Integration) and Siebel EIM (Enterprise Integration Manager)

Please send your resume, referencing Job Order Number WEB406903 to the: PA Careerlink, FLC Unit, 235 W. Chelten Avenue, Philadelphia, PA 19144. EOE.

Programmer Analyst

Watts Up Inc. (Ossining, NY) seeks software professional to design, develop and implement business applications and software. Experience in Oracle, SQL, ASP, Visual Basic and ERP. (Navision) a plus. Competitive salary. Mail resume and requirements to: 187 Main Street, Ossining, NY 10562. EOE

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PriceweterhouseCoopers LLP Tax practice has opportunities available for experienced professionels in the area of Systems Development and Administretion. Positions require e bachelor's (master's preferred) in CS, MIS or CE & 3 to 7 yrs related exp. Additional qualifications required include Lotus Notes development exp & Oracle PL/SQL exp. Job site/location: Washington, DC. Interested candidates please reference job code 55JPLN & fax resume to PwC GTT Recruiting et 813-348-7980. No phone calls please. Employer will only consider applicants euthorized to work for eny employer in the U.S.

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Sr. Software Engineer/Developer, Database Architect wanted by MD Soft, Inc. Candidate must have minimum BS with 5-yr experience in IT field including experience in data warehouse design, ETL development, using Acential datastage. Please contact mdsoftinc@yahoo.com. EOE.

K&M Softech is looking for programmer/system system, software/project engineers or IT professionals. Both entry & experienced levels needed. Some positions require travel. Skills in C/++, VB, Java, Oracle, SAP, SQL are plus. Please send resumes to Recruit@kmsoftech.com. EOE.

Staff Engineer/Technical Group Leader - Design component-level hardware for GSM devices to meet European EMC regulatory reqmts. Determine development objectives, perform processor integration, design audio circuitry & provide SIM & DAI interfaces; 40 hrs/wk. Must have MS in Electronics Engrg, Electronics/Communications Engrg or Electronics/Computer Engr & 3 yrs exp OR BS in Electronics Engrg, Electronics/Communications Engrg or Electronics/Computer Engr & 5 yrs progressive exp in the specialty field. Contact Panasonic Mobile, 1225 Northbrook Pkwy, Suwanee, GA 30024, Attn: D. Greer, MR.

Systems Analysts to provide in depth analysis, design, development and testing services for database dev projects; perform project scoping, planning, project time/cost schedules, quality of deliverables,study/evaluate new techs/methodologies; provide business guidance for complex user problems; guide teams by providing methodologies to follow;interact with clients on project related issues. Require Masters degree or foreign equiv in CSor Business Admin. High salary, f/t position. Travel involved. Resumes to HR, Smartsoft International, Inc., 4898, South Old Peachtree Rd, Norcross, GA 30071.

Systems Software Engineer. 8a-5p, 40hrs/wk. Analyze, dsgn, test, support & install LAN/WAN, n/works, data communication systms, servers & workstations; recommend n/work h/ware & s/ware; perform interface using n/work mgmt, CISCO routers, TCP/IP, Ethernet, VLSI tools & WinNT. 2 yrs exp. in job offd or as IT prof'l using above computer skills reqd. Masters or equiv in Comp Sci, Info Systms, Electrical, Electronics or related field of Engg reqd. (In lieu of Masters, Bach in specified majors & 5 yrs work exp as IT prof'l accepted.) Resume: Software Decisions Group, Inc., 235 Donamere Way, Alpharetta, GA 30022.

Data Communication Analyst needed for law firm, 4 years experience in duties or B.S. in Systems Engineering (Computer Science). Please send resume to: contact@casablancalaw.com or Attn: Human Resources, Casablanca & Associates, P. A., 444 Brickell Ave, 616, Miami, Florida 33131.

I.T. BUSINESS CONSULTANT- manage all info. systems & tech. related business needs for predominantly Spanish speaking clientele. B.S. Computer Sci. or equiv + 2 yr in job or in info systems & fluency in Spanish reqd. Proficiency in Windows NT, Microsoft applications & Lotus Notes & Domino platforms. Apply to: World Business Consultants, Inc. 1191 Hiddenbrook Ln, Suwanee, Ga 30024.

CGI Inform. Sys & Management Consultants, Inc. is looking for Sr. IT Consultant to develop web portal applications using Oracle 9IAS, data warehouse using pl/sql, reports6I & discoverer. Min. MS plus exp. of Oracle X/8/9, 9IAS, PL/SQL, JavaScript. Contact lisa.halter@cgi.com. No calls. EOE

Material Management Analyst wanted by Danco (subsidiary of NCH Corp) to handle management of import & vendor relationsl, obsolete inventory. Outsourcing activities. Must have minimum bachelor in management with experience. Please apply at chriscol@nch.com. EOE. No calls.

Jr. Software Engineer: Entry-level position to assist Sr. Software Engr in developing projects for co. MediaXtreme prod. & website using Assembly Language, C/C++, VB, ASP & Network Communication w/ Windows/Linux platforms. Req. B.Sc. in Com. Engr. or a related field. No exp. req. but must demo ability to perform job through either course work or project involving Assembly Language, C/C++ & Network Communication. Resume w/ transcript to Engr Director, Keywest Technology, 14563 W. 96th Terrace, Lenexa, KS 66215

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SENIOR SOFTWARE ENGINEER to design, develop, modify and support Computer System/apps software. Analyze user needs, design databases, develop software solutions using Enterprise Resource Planning & related software using SAP, SQL, MAPICS and MS Access skills. Require: Master's degree in an Engineering discipline, Business or closely related field with 2 years of experience in job offered or as a system analyst. Extensive travel within the U.S. Salary offered $72000/yr, 40 hrs/week, 8 a.m. - 5 p.m. Submit resumes to: Shri Gangal, Syspro Technologies, Inc. 17440 Dallas Parkway, Suite 207, Dallas TX 75287.

Mphasis Corporation has multiple openings for the following positions at its offices in New York, NY, Memphis, TN, Houston, TX and unanticipated client sites throughout the U.S.: Programmer Analyst, Software Engineer, Project Manager, Management Analyst, Sales Engineer, Business Development Manager, Finance Manager. Please send resume, salary history and position applied for to 444 Park Avenue South, Suite #503, New York, NY 10016, Attn: H.R. Manager.

Prog Analyst needed to analyze, design, implement and test proprietary s/w apps w/ exp in Java, Borland C/C++, MS SQL, ASP, ActiveX, HTML, VB. Ability to design and develop conversion/interface processes between proprietary s/w apps and WONDA, ILX, Bloomberg DDE Server, Prime Access, P&L Link is necessary. Send resumes to: Watchpoint Asset Management, 74 DW Hwy, Merrimack, NH 03054.

Software Engineers to design, develop, maintain appls using OOAD, Java, XML, JSP, JavaScript, HTML, JDBC, EJB, JFC, Java beans, CORBA, Weblogic, RationalRose etc; perform reqs/problem analysis, solution design, implementation, documentation on developed appls; provide training and user support for appls; study/evaluate new tech. & methodologies; perform project planning, time/cost scheduling. Require: MS or foreign equiv. in CS/Information systems/Engg.(any branch)/ & 1 yr exp. in IT. Comp. salary. f/t. travel involved. Send Resumes to: HR, Opal Soft, Inc. 3150 Almaden Expwy Ste 205, San Jose, CA 95118.

Software Developer III to perform small scale systm or subsystm dsgn. B.S. in Comp. Sci., Eng. or MIS or rel. field + 3 yrs exp. w/C, C++, VB, Java & Perl on Windows & UNIX. Exp. w/Palm OS; Oracle Reports Builder, Oracle 9iDS; and LoadRunner reqd. Resumes to: Margo Massey, 2510 North Dodge St., Iowa City, IA 52245.

PROGRAMMER ANALYSTS for Buffalo Grove, IL office. Design & develop software applications using VB, Oracle, Coolgen, Interwoven, PVCS, Erwin, ASP, XML, UML; Develop & implement client/server applications in Oracle Financials using synchronization techniques in Oracle tools such as PL/SQL, Developer 2000 & Designer 2000. Bachelors reqd in Computers, Engineering, or any related field of study + 2 yrs of related exp. 40 hrs/wk. Must have proof of legal authority to work permanently in the U.S. Send resume to HR Manager, Option Care, Inc., 485 Half Day Road, Ste. 300, Buffalo Grove, IL 60089.

PROGRAMMER ANALYSTS req'd for Chicago, IL office. Design & Develop software applications using C, C++, VB, Delphi, ASP, XML, UML, Coolgen, Interwoven, Oracle, PL/SQL, Developer 2000 & Designer 2000; Perform system & integration testing. Bachelors or Equivalent req'd In Computers, Engineering, math or related field of study +2 yrs of related exp. 40 hrs/wk. Must have legal authority to work permanently in the U.S. Send resume to HR Manager, Allied Business Consulting, Inc., 8700 W.Bryn Mawr, Suite 800 South, Chicago, IL 60631.

Seeking qualified applicants for the following positions in Orlando, FL: Senior Programmer Analyst. Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree or equivalent* in computer science, MIS, mathematics, engineering or related field plus 5 years of experience in systems/applications development. Experience with C and/or C++, Jave and RDBMS also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Sibl George, FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V.

Software Engineer - InterContinental Hotels Group is seeking qualified applicants for positions at the company's North American headquarters in Atlanta. Develop real-time revenue management applications for use in multi-platform environment. Requires relevant degree and experience with revenue management systems for hospitality/tourism industry. Apply to Francene Taylor, Six Continents Hotels, Inc., Three Ravinia Drive, Suite 100, Atlanta, Georgie 30346.

Software Engineer/ Programmer Analysts for consulting co in Skillman, NJ. Must have Bach degree in Comp Sci/Comp Eng or reltd field & 1-3 yrs exp. Send resume to: Optimal Solutions, 3 Richmond Drive, Skillman, NJ 08558.

SBI Is looking for the following positions for Its offices In Houston, TX, San Francisco, CA, Warren, NJ, Salt Lake City, UT and Portland, OR: Art Director, Web Designer, Progremmer Analysts, Technical Architects, Technical Consultants, Business Strategists, Systems Analysts, Software Engineers, Software Developers, SAP Consultant, resumes by email or fax only to HR, SBI 2825 East Cottonwood Parkway, Suite 480, Salt Lake City, UT 84121: careers@sbiandcompany.com; Fex (801) 733-3201.

Sr. Prog. Analysts to analyze, design, develop client server/n-tier appls usIng C, C++, Java, Perl, HTML, SQL Server, XML, ASP, JSP, Servlets, EJB, Weblogic, Java Scripts, etc. under Windows, Unix os; tune eppls for better performance; inteact with clients and end users for reqs gathering, analysis, planing and implementation; perform debugging and modifications of existing software. Require: MS or foreign equiv. in CS/Engg.(any branch). F/T. competitive salary. Travel involved. Resumes to: HR, Semafor Technologies, Inc., 3300, Holcomb Bridge Road, Ste 212, Norcross, GA 30092.

Programmer Analysts to analyze, design s/w appls using SAP R/3, ABAP/4, C, C++, Java, VB, JSP, JScript, HTML on UNIX/Windows os; gather/document reqs from user community; test/troubleshoot project appl code according to system objectives. Require a B.S. or foreign equiv in CS/Engg (any branch)with 2 yrs exp in IT. High salary. F/T. Travel involved. Resume to HR, Smartsoft International, Inc., 4898, South Old Peachtree Rd, Norcross, GA 30071.

Software Engineers needed: Req: BS degree or equivelent and/or rel. work exp. Part of the req. rel. work exp. must include 2 years working with Oracle end 1 year working with Java. Exp. can be simultaneous. Anelyze, design and implement systems and applications; provide engineering solutions; develop software. Work with Oracle RDBMS, Java, XML, SQL and PL/SQL. Mail resume, transcripts, references and salary requirements to: NewGen Technologies, Inc., 405 Kelsey Park Drive, West Palm Beach, FL 33410.

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Immediate opportunities for both entry-level and experienced Programmers, Programmer Analysts, Systems Analysts, Software Engineers, DBA's and Software Consultants with three or more of the following skills: Java, Shell Scripts, SAS, PLC, Textra, XML, SQL, DB2, mq-PCX, Oracle, PowerBuilder, Rational Rose, Sybase, Perl, PeopleSoft, Crystal Enterprise, Crystal Reports, Teradata & MS Visual Studio. Bachelor's or Master's degree reqd., depending on position. 1yr exp reqd. depending on position We also eccept the foreign edu. equiv. of the degree, or the degree equiv. in edu. and exp. Frequent travel and relocation. Send confidential résumé and salary requirements to: HR, Transworld, Inc 1515, Woodfield Road, Ste. 625, Schaumburg, IL, 60173 Visit our website at www.transwld.com.

Senior Software Engineer. Req. Bachelor's degree (or equiv. foreign educ.) in Computer Science or Electronic Eng. and 1 year's exp. in the job offered or 1 year's exp. developing interactive web-based apps. util. server-side JAVA & Coldfusion. All stated experience must include use of XML end InstallShield to deploy web-based applications. Must have experience in development of interactive web-based e-learning applicetions. Develop Interactive web-based e-learning applications utilizing server-side JAVA & Coldfusion. Enhance and develop e-learning applications and deployment software. 40 hrs./wk. Apply with resume to: SkillSoft Corporation, Attn: Jennifer Soldner, 20 Industrial Park Drive, Nashua, NH 03062.

Sr. Database Programmer - Analyze, design and develop database computer systems, using Transact-SQL Stored procedures. Provide support and training on programmed system modules BS in Information Systems + 2 years experience in database development and administration, or MS In Information Systems. Competitive salary. Please send resume to ByDesign Technologies, Inc. 3901 Coconut Palm Drive, Suite 117, Tampa, FL 33619. No phone calls please. Equal Opportunity Employer.

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Apply and maintain nuclear power plant software applications including NUMAD (Nuclear Materials Accounting Database) to develop and maintain the nuclear plant technology system; perform emergency testing drills on nuclear plant software to ensure functioning; analyze and assess work planning and implementation system for business operators to direct engineers to perform maintenance on nuclear plant equipment; plan, design and implement software systems to support management planning activities; recommend and engage new business opportunities for the nuclear plant in the technology area; ensure that all nuclear plant software systems are current so that clients projects comply with industry regulations; supervise and lead teams to implement client projects and ensure project deliverables are met. Requires Bachelors in Computer Science or Management Information Systems plus 1 yr. exp. in job or 1 yr. exp. in applying and maintaining nuclear power plant application NUMAD to develop and maintain nuclear plant technology system. 40 Hrs./wk., $52,423.00/Yr. *Must have proof of legal authority to work in the United States. Send your resume to the Iowa Workforce Center, 800 7th Street, SE, Cedar Rapids, Iowa 52406-0729. Please refer to Job Order IA1101782. Employer paid advertisement.*

PROGRAMMER/ANALYST to provide technical production support for PeopleSoft Version 7.5x financial applications, including GL, AP, Asset Management, and Project Costing & Purchasing. Design, develop, and maintain various systems using various management and development tools and techniques including PeopleSoft, SQL Server, Windows NT /2000, IIS, Visio, VSS, Visual Interdev, and Visual Basic. Require: B.S. degree in Computer Science/Engineering/Management Information System/Math or a closely related field with three years of experience in the job offered or as a Programmer/Software Engineer/DBA or equivalent. Extensive travel on assignments to various client sites within the U.S. is required. Salary: $85,301 per year, 9:00 am to 6:00 pm, M-F. Contact: Anu Singh, eSynaxis International, Inc., 3922 Riversong Court, Suwanee, GA 30024. Attn: Job IS.

Programmer. Job location: Cincinnati, OH. Duties: Develop client server appls. for system using Visual C++ & Sybase. Perform software programming for business appls. incl. modification requirements & version upgrades. Implement SQL commands, stored procedures & triggers in Sybase database environ. Requires: B.S. in Comp. Sci., Eng. or related field & 2 yrs. exp. in the job offered or 2 yrs. exp. as a Prog./Analyst or Analyst. Concurrent exp. must incl. 2 yrs. exp. developing client server appls. 40 hrs./wk.; 8:00 a.m. to 5:00 p.m. Send resume (no calls) to: Bob Miller, CTG, Inc., 312 Plum St., Ste. 700, Cincinnati, OH 45202-2618.

Sr. Software Engineer - Harleysville, PA. Job entails end requires experience in child support industry including experience in design, development and implementation of applications using SQL Server, C++, Delphi, Pervasive, Crystal Reports, Attachmate Extra, Unisys NDP series and Kliendienst series. Relocation within USA possible. Attractive compensation package. Send resume to HR, Immergent Technologies, 2290 Skyview Drive, Harleysville, PA 19438.

Business Objects has an opening for the position of Sr. Consultant to be based out of our San Jose, CA office.

The position requires a Bachelor's or foreign degree equivalent in CS/IS/Business or related field plus five years of work experience as IT, software consulting or related. The job duties include: Implement, analyze, design and delivery Business Objects Decision Support Systems for F1000 customers. Complement the service offerings of consulting firms, systems integrators, and large customer personnel in architecting, designing, implementing, and integrating business solutions in the enterprise. Identify all technical requirements within assigned account for delivering the solutions directly and for working with corporate support personnel, sales management, and the Field Sales personnel to resolve any technical issues or requirements. Provide technical solutions to customers while identifying new opportunities. Travel extensively throughout the U.S.

To apply for a position, visit our website at www.businessobjects.com/careers or forward your resume (ref CW0304) to: Business Objects Americas, Attn: Staffing, 3030 Orchard Pkwy, San Jose, CA 95134. EOE

Full-time Business Intelligence Developer. Duties include BCA scheduling, UNIVERSE development, server cluster administration. Analyze and build data universes and reports. Deploy--ment of Business Objects reports through Web Intelligence. Job responsibilities include maintaining users and supporting existing report catalog. Maintain the BCA Server schedule. Responsible for the maintenance and generation of reporting worksheets that are delivered via Excel. Work with Universe development, BCA Scheduling, Business Objects development, Oracle PL/SQL, Excel Analysis, development of BI systems in data warehousing, VBA Macro Coding in Business Objects, Application Foundation 3.x/6.x, Web Intelligence Server Administration 6.x, Business Objects Supervisor (5.x, 6.x), Web Intelligence SDK using Java Server Pages (JSP), Data Warehousing Methodology and Dimensional Modeling, PL/SQL, T-SQL, Microsoft SQL and Oracle. Must have a Bachelors Degree in Management. Foreign degree equivalent accepted. Must have 5 years of experience in job offered or position with same duties. Send resume to: Kim Brown, 245 Perimeter Center Parkway, Ste. 600, Atlanta, GA 30346.

Software engineer to design, develop and test computer programs for business applications; analyze software requirements to determine feasibility of design; direct software system testing procedures using expertise in J2EE, Struts, MQ Series, WebLogic and EJB. Requirements: Bachelor's Degree or equivalent in Computer Science or related field and two years experience as e software engineer or computer programmer, knowledge of J2EE, Struts, MQ Series, WebLogic and EJB. Salary: $78,500/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: Site Maneger, Armstrong County CareerLink, 1270 North Water Street, PO Box 759, Kittanning, PA 16201, Job No. WEB409565.

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Page number refers to page on which story begins. Company names can also be searched at **www.computerworld.com**.

3COM CORP. 21
ABEROEEN GROUP INC. 10
ACCENTURE LTO. 1
ADVANCEO MICRO OEVICES INC. 6, 6, 12
AIRLINE TARIFF PUBLISHING CO. 25
AMERICAN ELECTRONICS ASSOCIATION 1
AMERICAN MANAGEMENT ASSOCIATION 38
AMERIVAULT CORP. 34
AMES OEPARTMENT STORES INC. 30
AMR RESEARCH INC. 36
ARTHUR ANOERSEN LLP. 30
ASSOCIATED WHOLESALERS INC. ..... S
ASSOCIATION OF CONTINGENCY PLANNERS 40
AT&T CORP 30
AVAYA INC 21
BEA SYSTEMS INC. ..... S
BELLSOUTH CORP. 40
BEST BUY CO. 1
BOSCOV'S OEPARTMENT STORE LLC 10, 51
BROOKS BROTHERS. 30
C&S WHOLESALE GROCERS INC. 30
CARNIVAL CORP 30
CENTRATA INC. 8
CHICAGO RFSEARCH ANO PLANNING GROUP 38
CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS 14
CIA 4
CISCO SYSTEMS INC 10, 14, 21
CNF INC 26
COMMVAULT SYSTEMS INC. 34
COMPETE AMERICA 1
COMPUCOM SYSTEMS INC. 39
COMPUTER ASSOCIATES INTERNATIONAL INC. 5, 10
COMPUTER SCIENCES CORP. 1
CONCORO COMMUNICATIONS INC. 21, 24
CORIGELAN LLC. 33, 40
CREOIT SUISSE FIRST BOSTON LLC ..... S
OAKSH ESERVICES PVT. 17
OEBIAN. 51
OELAWARE OEPARTMENT OF TECHNOLOGY ANO INFORMATION 34
OHL INTERNATIONAL LTO. 26
OIGITAL RIVER INC. 18
ORI INTERNATIONAL 40
ELECTRONIC OATA SYSTEMS CORP. 1, 39
EMBARCAOERO SYSTEMS CORP. 21
EMC CORP. 10, 34
EVIOATA SOLUTIONS 10
EXABYTE CORP. 40
EXPEOIA INC. 26
FALCONBRIOGE LTO 21
FBI 4
FEOERAL EMERGENCY MANAGEMENT AGENCY 41
FEOEX CORP. 28, 30
FENWICK & WEST LLP 1
FLORIOA COMMUNITY COLLEGE OF JACKSONVILLE 19
FLUOR CORP 39
FLUOR FERNALO INC. 39
FORRESTER RESEARCH INC. 1, 51
FROST & SULLIVAN INC. 21
GAP INC. 18, 38
GARTNER INC. 5, 30, 36, 38
GE CAPITAL REAL ESTATE 4
GENERAL ELECTRIC CO. 4
GENERAL MOTORS CORP. 4, 30
GEOLOGISTICS CORP. 30
GOLOENGATE SOFTWARE INC. 26
GRANT THORNTON INC. 21
H&R BLOCK INC. 16
HANCOCK BANK 34
HEWLETT-PACKARO CO. 6, 21, 26
HITACHI LTO. 40
IBM 10, 17, 36, 39
IEEE-USA 1
IMPRIVATA INC. 8
INSIGHT RESEARCH CORP. 21
IN-STAT/MOR 12
INSTITUTE OF ELECTRICAL ANO ELECTRONICS ENGINEERS INC. 1
INTEL CORP. 6, 26, 39
INTERMOUNTAIN HEALTH CARE INC. 30
INTERNET SECURITY SYSTEMS INC. 1
INTERTRUST TECHNOLOGIES CORP. 10
INTRANETS.COM INC. 26
INTRUSIC INC. 6
J SAINSBURY PLC 1
JACK OALE ASSOCIATES PC 34
LOUISVILLE INTERNATIONAL AIRPORT 28
LOWE ENTERPRISES INC. 8
LUCENT TECHNOLOGIES INC. 30
MANORAKESOFT INC. 51
MASSACHUSETTS OEPARTMENT OF EOUCATION 5
MASSACHUSETTS SOFTWARE COUNCIL 17
MCOONALO'S CORP 12, 52
MEMBERWORKS INC. 30
MERGEGLOBAL INC. 27, 28
MESSAGEONE INC. 40
META GROUP INC. 10
MIAMI-OADE COUNTY 34
MICROMUSE INC. 21
MICROSOFT CORP. 1, 8, 10, 25, 38, 51
MIZUHO CAPITAL MARKETS CORP. 34
MIZUHO FINANCIAL GROUP INC. 34
MORNINGSTAR INC. 5
MVALENT INC. 17
MYRIAD SOLUTIONS INC. ..... S
MYSQL AB 10
NATIONAL COMMISSION ON TERRORIST ATTACKS UPON THE U.S. 4
NATIONAL INSTITUTE OF STANOAROS ANO TECHNOLOGY 51
NATIONAL SCIENCE FOUNOATION 8
NETIQ CORP. 21
NETSCREEN TECHNOLOGIES INC. 26
NETWORK FRONTIERS LLC 40
NETWORK INTELLIGENCE CORP. 26
NEXTIRAONE LLC. 21
NORTEL NETWORKS LTO. 21
NOVELL INC. 51
ORACLE CORP. 1, 5, 10, 16, 39
ORBITZ INC. 26
PALM INC. 28
PATTON BOGGS LLP 34
PEOPLESOFT INC. 6, 10
POLYCOM INC. 14
PRATT & WHITNEY 30
PROTIVITI INC. 39, 40
PRUOENTIAL NORTHWEST PROPERTIES 21
RAINOANCE COMMUNICATIONS INC. 6
REO HAT INC. 51
REOSIREN INC. 38
ROBERT FRANCES GROUP INC. ..... S
RYOER SYSTEM INC. 38
SABRE HOLOINGS CORP. 28
SAN OIEGO SUPERCOMPUTER CENTER 8
SAP AG 18
SCHLOTZSKY'S INC. S2
SCHLUMBERGER LTO. 10
SEARS, ROEBUCK ANO CO. 1
SEATTLE MARINERS. 10
SIX CONTINENTS HOTELS INC. 30
SOFTWARE ENGINEERING INSTITUTE 30
SONATA SOFTWARE LTO. 41
SONY CORP. 14
SOUTHERN CALIFORNIA WATER CO. 16, 38
SOUTHERN REGIONAL HEALTH SYSTEM 1
STANFORO UNIVERSITY 8
STARBUCKS CORP. 52
SUN MICROSYSTEMS INC. 1, 6, 8, 10, 12, 28
SUNGARO OATA SYSTEMS INC. 34, 36
SUSE LINUX AG S1
SYMANTEC CORP. 10
TANOBERG ASA 14
TATA CONSULTANCY SERVICES 41
TERRORIST THREAT INTEGRATION CENTER 4
THE BOEING CO. 41
THE ENOERLE GROUP 4
THE UPTIME INSTITUTE 34
THE WARNACO GROUP INC. 30
THERMO ELECTRON CORP. 1
TOWERGROUP 34
TRAVELOCITY.COM L.P. 28
U.S. OEPARTMENT OF HOMELANO SECURITY 4
U.S. OEPARTMENT OF JUSTICE ..... 4, S
U S. ENVIRONMENTAL PROTECTION AGENCY 6
U.S. SECURITIES ANO EXCHANGE COMMISSION 5
UNITEO PARCEL SERVICE INC. 27, 28
UNIVERSITY OF CALIFORNIA, SAN OIEGO 8
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN ..... B
UPROMISE INC. 17
VANDERBILT UNIVERSITY MEOICAL CENTER. 39
VIRTUSA CORP. 17
VISUAL NETWORKS OPERATIONS INC. 21
WAINHOUSE RESEARCH LLC 14
WAYPORT INC. 12, S2
WIPRO LTO 17 41

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www.apcc.com
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www.att.com
Cisco 1
www.cisco.com
Computer Associates
www.ca.com
CyberNet Manufacturing 42
www.cybernetman.com
EMC 3
www.emc.com
Hewlett-Packard Linux 2, 23
www.hp.com
Hewlett-Packard ProLiant 37*
www.hp.com
IBM Express Middleware 4
www.ibm.com
InterSystems Caché
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msdn.microsoft.com/v
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www.tripplite.com
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Continued from page 1

Patches

hearts," said Kamens, who had to patch more than 4,000 Windows systems last week at the Waltham, Mass.-based scientific equipment manufacturer.

Among the flaws considered particularly dangerous was a buffer overrun vulnerability in a user authentication function called the Local Security Authority Subsystem. Hackers who successfully exploit the flaw could take complete control of compromised systems.

A buffer overrun flaw related to a component used to secure communications between servers and clients on public networks was also deemed a critical risk, for the same reason.

Both flaws present "high-value targets" for hackers because they involve security and authentication components in Windows, said Neel Mehta, a research engineer at Internet Security Systems Inc. in Atlanta. "I expect [the flaws] to be exploited in a very short time," Mehta said.

Southern Regional Health System in Riverdale, Ga., had to patch nearly 100 Windows NT and Windows 2000 servers last week.

"These announcements are becoming more like the Chicken Little [story]," said Reid Burch, the health care organization's network services manager. "I'm not saying that we're ignoring the patches. But it has become comical that these patches are released so frequently."

Since the hospital has to run patient care applications around the clock, the task of patching systems is very difficult, Burch added.

Briar Patch

- **Buffer overrun vulnerability in the Local Security Authority Subsystem interface:** Critical for Windows 2000, Windows XP
- **Buffer overrun in the Private Communications Transport protocol:** Critical for Windows NT 4.0 and Windows 2000
- **RPC Runtime Library vulnerability:** Critical for Windows 2000, XP and Windows Server 2003

Fenwick & West LLP had to allocate three IT workers to patching duties last week, and by Thursday, all three were working overtime, said Matt Kesner, the Mountain View, Calif.-based law firm's chief technology officer.

Even so, the firm was having problems getting the patches installed, with some machines requiring multiple attempts and 12 PCs needing to be completely reformatted to accept the patches.

"Despite the fact that Microsoft has made this huge commitment to security, they are not saying why these vulnerabilities are showing up and what exactly they are doing to research and patch them," Kesner said. There are also questions about how long Microsoft might have known about these vulnerabilities before the patches became available, he said.

"There are more questions asked than answered when such a large update is released," said Robert Bagamery, a systems support specialist at a large Canadian utility that he asked not be named.

"I wonder what they've broken with the fix," Bagamery said. "I wonder how many more there are, and how many they know about but aren't talking [about]."

Microsoft didn't respond to specific user complaints. But Stephen Toulouse, security program manager at its Security Response Center, said the company's decision to address so many flaws with a few large patches was driven by practical considerations.

"When we see the opportunity to ship one set of files that contain multiple fixes, we really attempt to do that" instead of shipping separate fixes, he said.

The approach makes it easier for users to apply the patches, Toulouse added. "It was the best solution for our customers," he said. **46247**

Linux Vendors Claim Forrester Report Favored Microsoft

Four major Linux distributors have sharply criticized a recent report in which Forrester Research Inc. found that Microsoft Corp. outperformed them in responding to and fixing security flaws.

In a joint letter released April 6, Linux distributors Debian, MandrakeSoft Inc., Red Hat Inc. and SUSE Linux AG questioned the validity of Forrester's conclusions and claimed that the report had "extremely limited real-world value" for users.

"It's bogus in its current form," said Joey Schulze, a member of Debian's security team.

Laura Koetzle, the author of the Forrester report, defended her company's analysis of the data. All vendors studied in the report were measured equally using publicly available vulnerability data and widely accepted vulnerability rating measures from the National Institute of Standards and Technology (NIST), she said.

Cambridge, Mass.-based Forrester's report "Is Linux More Secure than Windows?" was released on March 22. It looks at how Microsoft and the four Linux vendors responded to reports of security flaws from June 1, 2002, to May 31, 2003. Microsoft ranks first among the vendors for its "responsiveness" and its "thoroughness" in dealing with reported security vulnerabilities.

On average, Microsoft took 25 days between public disclosure and the release of a fix, and it was the only company to fix all vulnerabilities, the report stated. However, Microsoft also had the highest percentage of serious flaws.

In contrast, Moreno Valley, Calif.-based MandrakeSoft took 82 days on average to issue fixes for its Linux distribution, the Forrester report said. SUSE took 74 days, and Red Hat and Debian each took an average of 57 days.

The Linux vendors ranked lower than Microsoft in terms of the percentage of reported flaws they fixed. Red Hat, which fixed all but one flaw, was closest, while Debian ranked last, fixing 275 out of 286 flaws.

While the data that the analysis is based on is accurate, the conclusions are not, said Vincent Danen, security update manager at MandrakeSoft. By measuring only the time elapsed between public knowledge of a security flaw and the availability of a vendor's fix, the study failed to make a distinction between the critical flaws and the not-so-severe ones, the jointly signed letter said.

Linux vendors typically treat flaws on a case-by-case basis, with high-risk flaws getting a higher priority than low-risk ones, Danen said. The response to a flaw is based on risk assessments made by each distributor and may not always coincide with the assessment made by a third party such as NIST, he said.

"Our users will know that for critical flaws, we can respond within hours," SUSE Linux said in a statement. SUSE is now owned by Novell Inc.

By focusing purely on quantitative analyses, the Forrester report fails "to differentiate between both the seriousness of the flaws and, more importantly, the quality of the fixes," SUSE said in its note.

Making a distinction between serious flaws and not-so-serious ones when devising a response is crucial, said Joe Poole, manager of technical support at Boscov's Department Stores LLC in Reading, Pa.

"[Vendors] have to separate the things they need to do tomorrow and what can be done in a month," he said.

This isn't the first time that a Forrester report comparing Microsoft products and Linux has been criticized. In September, the research firm drew criticism from users over a Microsoft-funded report that concluded that Microsoft development platforms had a substantial cost advantage over Linux/J2EE for portal applications [QuickLink 41320].

But Koetzle stressed that her security report had no Microsoft backing whatsoever. "Microsoft did not pay for this report," she said.

– Jaikumar Vijayan

Flaw Scoreboard

PLATFORM	TOTAL FLAWS	HIGH-SEVERITY FLAWS	NUMBER OF FLAWS FIXED
[illegible]	286	162	275
[illegible]	199	120	197
[illegible]	128	86	128
[illegible]	229	128	228
[illegible]	176	111	172

SOURCE: FORRESTER RESEARCH INC., CAMBRIDGE, MASS.

Time frame: June 1, 2002, to May 31, 2003

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FRANK HAYES ▪ FRANKLY SPEAKING

McWi-Fi

IT SEEMS LIKE A SIMPLE ENOUGH DEAL: Last week, fast food chain McDonald's announced it's having 6,000 of its U.S. outlets set up for Wi-Fi access (see story, page 12). The new hot spots will let McDonald's customers link up to the Internet while they chow down, for a mere $2.95 per hour. There's nothing really new about that — lots of Starbucks coffee joints and a few Schlotzsky's delis already offer Wi-Fi. And their food's better, too.

The subtle difference at McDonald's? Even though a third party — Wayport Inc. — will install and run the Wi-Fi network, McDonald's will use the same network for its own cashless payment system.

In other words, instead of paying for 6,000 pricey wireless IT projects to support cashless payment, McDonald's plans to get someone else to do the work — and get them to pay for the privilege.

Now *that's* ROI.

In effect, McDonald's has cleverly turned outsourcing inside out. Instead of McDonald's paying Wayport to run its wireless networks, Wayport pays for the equipment, installs it and runs it. Then Wayport charges McDonald's customers who use the Wi-Fi network, and it splits the take with Mickey D's.

And McDonald's gives up a little piece of that revenue stream for the right to use a little piece of the wireless bandwidth for its cashless payment system.

Everybody comes out ahead. Wayport gets thousands of prime locations for its service. McDonald's offloads the work of installing and securing wireless networks and turns a cost center into a revenue stream. Customers get to check e-mail or download MP3s and pay when their Happy Meals arrive.

And the rest of us? We get a new way of looking at Wi-Fi.

For the past few years, we've been fighting Wi-Fi. Let's face it, most corporate IT people wish Wi-Fi had never been invented. We wish those cheap wireless access points cost $50,000 each, so users wouldn't buy them, sneak them in and connect them to our networks. We wish we didn't have to hunt down those unauthorized access points and fight with users to remove them.

And if we've actually adopted Wi-Fi for some applications, we still wish we didn't have to worry about Wi-Fi security, Wi-Fi compatibility and the fact that it's so hard to limit Wi-Fi's range. It's costly, time-consuming and a big pain — all because we want to keep outsiders off our Wi-Fi networks, just as we want to keep them off our wired networks.

Now, let's say we turn that mind-set inside out, using the McDonald's model.

Suppose that instead of fighting Wi-Fi, you got paid by a Wi-Fi provider that ran a Wi-Fi network for you. What would happen then? That provider would get the hassles of buying equipment and positioning antennas and securing everything.

Your employees could use Wi-Fi through a virtual private network as part of the deal. That would wipe out any reason for them to sneak in their own cheap Wi-Fi access points — they'd be getting better equipment for free.

And instead of trying to limit the Wi-Fi hot spot's range or hide it from outsiders, you'd want everyone to know about it. Why? Because every time an outsider accessed your Wi-Fi network, you'd make money.

A pipe dream? Maybe, maybe not. True, Wi-Fi users wish hot spots were everywhere. But not every location would be profitable enough to a Wi-Fi provider to be worth the trouble. Whether you could find a Wi-Fi provider to foot the bill, or even split the cost, depends on the market, demand and location, location, location.

But you'll never know what's possible until you start thinking creatively about Wi-Fi. And you've already got a burger-flipping clown as an example of how to turn Wi-Fi problems inside out. 46220

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Showing Off Like It's 1999

This internal audit director likes to impress everyone with his knowledge, says pilot fish who works with the guy. So at a VP-level meeting to discuss the ramifications of the Sarbanes-Oxley Act, the audit director decides to show off. "All of this Sarbanes-Oxley work reminds me of Y2k," he says. "When was that again?"

SHARK TANK

Dead Wrong

Late one night in the late 1980s, this mainframe operator pilot fish needs to call a programmer to solve a batch-job problem. "The online call list was notorious for being out of date," fish says. But he calls and asks by name for the programmer at the top of the list. "After a long pause, the woman said the programmer was dead," says stunned fish. "I mumbled that I was sorry and would call the secondary programmer, and hung up. Needless to say, the next day our VP called the VP in programming to get their call lists up to date."

Very Clear On the Concept

This IT shop gets a mandate in the mid-1980s to improve computer-room security. The proposal: Add security cameras and a turnstile to discourage tailgating when an employee uses his badge to unlock the door. But when the architect hears the idea, he walks pilot fish to an empty section of hallway – and with one hard kick, knocks a hole all the way into the data center. "First, we covered the wall with metal reinforcement," says fish. "Then we returned to the subject of the turnstile."

Unclear on The Concept

It's the late 1970s, and this data center uses punch cards for passing information between job steps. "A customer requested changes that required more information to be passed between job steps than can be passed on a single card," says analyst pilot fish. "I told him there would be additional changes to the programs to allow for multicard processing, and that meant additional charges. He said, 'Can't you just use the same card and punch them on the back?' "

Plan? What Plan?

The plan: As of next Monday, all users' default passwords will be last name plus the last four digits of their Social Security number. "E-mails are dispatched corporatewide noting the upcoming change and the password to expect," says help desk pilot fish. The reality: On Monday, the new passwords don't work. As the help desk is flooded with calls, late-arriving PC techs make an admission: "That password scheme was too time-consuming, so we just made everyone's password password . . ."

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